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BATTLEFIELD STRESS: PRE-CONDITIONING SOLDIERS FOR COMBAT

A thesis presented to the Faculty of the U.S. Army  
Command and General Staff College in partial  
fulfillment of the requirements for the  
degree

MASTER OF MILITARY ART AND SCIENCE

by

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1987

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87-3613

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Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

## REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION <b>Unclassified</b>			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE			4. PERFORMING ORGANIZATION REPORT NUMBER(S)		
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION U.S. Army Command and General Staff College		6b. OFFICE SYMBOL (if applicable) ATZL-SWD-GD		7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State, and ZIP Code)  Attn: ATZL-SWD-GD Fort Leavenworth, Kansas 66027-6900		7b. ADDRESS (City, State, and ZIP Code)			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (if applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code)		10. SOURCE OF FUNDING NUMBERS			
		PROGRAM ELEMENT NO.		PROJECT NO.	TASK NO.
					WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification)  Battlefield Stress: Pre-conditioning Soldiers for Combat					
12. PERSONAL AUTHOR(S) Major Dennis W. Schoeppner					
13a. TYPE OF REPORT Master's Thesis		13b. TIME COVERED FROM 8-1986 TO 6-1987		14. DATE OF REPORT (Year, Month, Day) 1987 June 5	
15. PAGE COUNT 110					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP			
			Battlefield Stress, Stress, Battle Fatigue, Coping Techniques, Neuropsychiatry, Human Factors		
19. ABSTRACT (Continue on reverse if necessary and identify by block number) This study identifies stress-coping techniques which the individual soldier can use to control his responses to battlefield stress, in order to maximize his performance. This is achieved through an examination of past warfare examples, U.S. Army doctrine, and civilian documentary sources of stress-coping techniques. The nature of stress, its signs and symptoms, stressors, casualty rates, and treatment principles are identified and discussed. Coping techniques are compared against a set of criteria for applicability on the battlefield. The time periods of before, during, and after combat actions are used as a framework for relating coping techniques to their actual use on the battlefield.  The study concludes that history does not provide detailed information about individual stress-coping techniques. Soldiers were not trained to cope with stress. The focus has been centered around neuropsychiatric casualty rates, treatment procedures, and return-to-duty rates of neuropsychiatric casualties. There is a significant gap in U.S. Army doctrine in that it lacks sufficient detail on coping techniques to be of practical					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input type="checkbox"/> UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL			22b. TELEPHONE (Include Area Code)		22c. OFFICE SYMBOL

## 19. ABSTRACT (Continued)

use to commanders and soldiers. The civilian sector presents a broad spectrum of coping techniques, but all are not applicable to the battlefield. The environment of the battlefield differs from a civilian environment due to extended periods of time the soldier is exposed to stress and the high intensity of the battlefield. Of primary importance is the education of soldiers about stress. The Army must train every soldier to recognize stress and to practice coping techniques that work for him in order to minimize future manpower losses on the battlefield.

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

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# ABSTRACT

BATTLEFIELD STRESS: PRE-CONDITIONING SOLDIERS FOR COMBAT, by Major Dennis W. Schoeppner, USA, 104 pages.

This study identifies stress-coping techniques which the individual soldier can use to control his responses to battlefield stress, in order to maximize his performance. This is achieved through an examination of past warfare examples, U.S. Army doctrine, and civilian documentary sources of stress-coping techniques. The nature of stress, its signs and symptoms, stressors, casualty rates, and treatment principles are identified and discussed. Coping techniques are compared against a set of criteria for applicability on the battlefield. The time periods of before, during, and after combat actions are used as a framework for relating coping techniques to their actual use on the battlefield.

The study concludes that history does not provide detailed information about individual stress-coping techniques. Soldiers were not trained to cope with stress. The focus has been centered around neuropsychiatric casualty rates, treatment procedures, and return-to-duty rates of neuropsychiatric casualties. There is a significant gap in U.S. Army doctrine in that it lacks sufficient detail on coping techniques to be of practical use to commanders and soldiers. The civilian sector presents a broad spectrum of coping techniques, but all are not applicable to the battlefield. The environment of the battlefield differs from a civilian environment due to extended periods of time the soldier is exposed to stress and the high intensity of the battlefield. Of primary importance is the education of soldiers about stress. The Army must train every soldier to recognize stress and to practice coping techniques that work for him in order to minimize future manpower losses on the battlefield.

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#### ACKNOWLEDGEMENTS

I would like to express my gratitude to the staff and faculty of the Combined Arms Research Library, the Command and General Staff College, and the members of my thesis committee for the tremendous assistance and support they have provided throughout the conduct of this study.

A very special mention of appreciation goes to Diana, my wife, and Lee and Beth, my children, for their countless sacrifices, continuous support, and helpful assistance which they so willingly provided toward the completion of the study.

## TABLE OF CONTENTS

	Page
TITLE PAGE.....	i
THESIS APPROVAL.....	ii
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
CHAPTER:	
I INTRODUCTION.....	1
II SURVEY OF LITERATURE.....	10
III METHODOLOGY.....	22
IV SUMMARY OF RESEARCH.....	28
V DISCUSSION.....	62
VI CONCLUSION.....	76
APPENDICES:	
A GLOSSARY OF ABBRIVATIONS AND ACRONYMS.....	87
B DEFINITION OF TERMS.....	89
BIBLIOGRAPHY.....	95
INITIAL DISTRIBUTION LIST.....	106

# LIST OF TABLES

Table	Title	Page
1	Battlefield Stressors.....	33
2	Stressors in the Civilian Work Place.....	34
3	Signs to Normal Reactions to Stress in Combat.....	36
4	Individual Coping Techniques. (U.S. Army Doctrine).....	42
5	Additional Individual Coping Techniques.....	45
6	Coping Techniques & Mechanisms. (World War II & Korean War).....	47
7	Individual Coping Techniques. (Civilian).....	52
8	Summary of Individual Coping Techniques.....	63
9	Applicability of Coping Techniques on the Battlefield.....	73
10	Number of Techniques Applicable on the Battlefield.....	74
11	Coping Technique Conclusions.....	82



## LIST OF FIGURES

Figure	Title	Page
1	Level of Performance Versus Level of Stress.....	30
2	General Adaptation Syndrome (GAS).....	31

## CHAPTER I

### INTRODUCTION

#### Battlefield Stress

Effective military manpower is essential on the battlefield. Without it, ground can neither be held nor gained. Throughout history, battlefield stress has created significant manpower losses. In the Battles of Faid and Kasserine Passes, the first major engagements of United States forces in World War II, 20 to 34 percent of the casualties were caused not by direct wounds or disease, but by battlefield stress.<sup>1</sup> In the war in Lebanon, June through September 1982, the Israelites, who are considered to have high unit cohesion and well qualified leaders, suffered one stress casualty for every four wounded in action (WIA). This amounted to 600 casualties.<sup>2</sup> In fact one battalion suffered 31 stress casualties to 36 physical casualties (WIA and KIA), a ratio of 1 to 1.2.<sup>3</sup>

All units, no matter how elite, suffer casualties from battlefield stress. Even the Wehrmacht, considered to have excellent small unit leadership and social cohesion, suffered losses due to stress and was forced to deal with the problem in World War II.<sup>4</sup> In World War II, the US Army Surgeon General on the Italian Campaign stated that "...the question of predicting neuropsychiatric breakdown resolved itself into one of determining when a man would break rather than who would break under stress."<sup>5</sup>

Manpower losses in war have varied, depending on a variety of

circumstances: the intensity of the conflict, the length of time the soldier spends in combat, lethality of weapons, degree of training and experience of the soldier, and unit cohesion. Overall, the casualty rate has varied generally from 1 per 8 MIAs to 1 per every 2 MIAs, with the average about 1 per 4 MIAs.\*

Although these figures suggest a rather large problem that units experience in combat, they are conservative. The figures presented are based on medical statistics. They naturally would be higher if all events were taken into account, such as the number of soldiers wounded, killed, or captured due to their own mistakes caused by stress-induced dysfunction, self-inflicted wounds, soldiers absent without leave, and physical ailments brought on by stress.<sup>7</sup> Therefore, although these figures present the problem of manpower loss due to battlefield stress, the magnitude of the problem is much greater than it initially appears.

If this was a problem in past conflicts, what might it be like in the future? History has shown that battle stress casualties increase with the intensity of the conflict, lethality of weapons, duration of the battles, and length of the combat tour. Current U.S. Army doctrine describes the nature of the modern battlefield as follows:

"...chaotic, intense, and highly destructive... Rapid movement will be complemented by the use of advanced highly lethal weapons throughout the battle area...deep reconnaissance, air mobility, long-range fires, and special operating forces (SOF) will blur the distinction between front and rear and will impose an all around defense and self-sufficiency on all units. ...any battlefield employment of nuclear weapons would certainly magnify the destructiveness of operations and could sharply alter their tempo. Besides the effects of physical damages, the psychological stress on soldiers would be severe."<sup>8</sup>

The anticipated stress casualty rate for the future in continuous combat

operations is at least 1 to 3 NIAs.\* The nature of the future battlefield may bring an even greater amount of stress and stress-induced casualties than ever before.

#### Problem Definition

The purpose of this study is to determine how the individual soldier can control his responses to battlefield stress, in order to maximize his performance.

To do this, three points must be questioned. First, what has the military done in the past? Were soldiers trained to cope with battlefield stress? How were they trained and how effective was the training? Second, what does current U.S. Army doctrine say? Does doctrine prescribe coping techniques for the individual? And third, are there other coping techniques that will aid the soldier facing battlefield stress? Does the civilian sector have anything to offer? And if so, what are these techniques? Are they applicable to the battlefield, coming from the civilian sector? When and how may they be used, before, during, or after combat?

#### Significance of the Study

"It is a well known fact that we cannot afford to waste man power in any future war; therefore, it behooves us to give serious study to the early formulation and adoption of Army-wide policies aimed at establishing these conservative measures."<sup>10</sup>

History is full of lessons learned when treating stress casualties on the battlefield. Once a soldier reaches a certain point he becomes incapacitated. He can take just so much until he reaches his

breaking point. It takes from 24 to 96 hours of treatment before 80 to 90 percent of the casualties can return to their normal duties.<sup>11</sup> Treatment of the soldier should begin as soon as he is identified as a stress casualty (immediately), as close to his unit as possible without evacuation to the rear (proximity), while maintaining the proper atmosphere during treatment, one that views the casualty as a soldier expected to return to his duties as soon as possible (expectancy), and treatment is comprised of simple therapy (simplicity).<sup>12</sup> The stress casualty rate increases with the intensity and duration of the battle.

These lessons are well founded. But, they react to the situation of the soldier under stress rather than proact. They wait for the soldier's performance to deteriorate so that he can no longer function normally. They wait for him to be a casualty before action is taken. The solution to combating the negative effects of stress on the battlefield must be a combination of efforts at all levels, beginning with the individual, including small unit teams, commanders and leaders, and ending with qualified medical personnel who provide medical treatment.

If the soldier can be armed in advance with the ability to cope with battlefield stress, then he will become more effective, reduce manpower losses, and lessen the demand on medical services. This study attempts to examine how the soldier can control his responses to stress in order to maximize his performance.

### Definitions

In order to understand and discuss this problem, it is necessary to clearly define terms. Throughout history battlefield stress has been called many things: shell shock, war neurosis, psychoneurosis, combat fatigue, combat exhaustion, combat reaction, stress reaction, battle stress reaction, and battle fatigue.<sup>13, 14</sup> Battlefield stress, or combat stress, actually "Includes all physiological and emotional stresses encountered as a direct result of the dangers and mission demands of combat."<sup>15</sup>

The battlefield is commonly defined as "That area required by combat forces for the conduct of operations. The territory forward of the Army rear area boundary."<sup>16</sup> On the battlefield not only combat soldiers are exposed to stress, but also combat support and service support soldiers.

Battlefield stress is stress related to the battlefield. But, what is stress? Stress is most commonly understood as, "Any nonspecific response of the body to any demand, whether it is caused by, or results in, pleasant or unpleasant conditions, it cannot and should not be avoided."<sup>17</sup> Distress is "...harmful, unpleasant stress."<sup>18</sup> And eustress is defined as helpful, pleasant stress.

It is important to understand that stress is necessary in all living beings. Any demand on the body, as simple as the temperature in the room, or as complex as the death of a spouse, generates a response. This response is stress. The only time there is a lack of stress is in death.<sup>19</sup> When one speaks of battlefield stress, what is generally understood is the negative and harmful stress, distress on the

battlefield.

The effect of distress on the battlefield is commonly referred to as battle fatigue. Battle fatigue is defined as "...negative combat stress reactions with uncomfortable feelings and performance degradation. The term itself does not imply a mental disorder. There are several degrees of battle fatigue...mild, moderate, and severe."<sup>20</sup>

Coping techniques are methods of directing "...problem-solving efforts used by an individual when the demands he faces are highly relevant to his welfare (that is, a situation of considerable jeopardy or promise), and when these demands tax his adaptive process."<sup>21</sup> It is important to recognize that this definition

"...emphasizes the importance of the emotional context in coping, ...allows inclusion of both the negative or stress side of emotion, as well as the positive side of potential fulfillment or gratification, ...recognizes the overlap between problem solving and coping, ...and emphasizes adaptive tasks that are not routine or automatized, that is, those in which the adaptive outcome is uncertain and in which the limits of the individual's adaptive skill are approached."<sup>22</sup>

Specific coping techniques will be discussed in later chapters.

Additional and more detailed definitions are listed in Appendix B.

### Limitations

This study was limited in scope in order to keep the project manageable. Research of historical aspects on battlefield stress was limited to only a few mid-to-high intensity warfare experiences. Research also included stress coping techniques presented in current US Army doctrine and the civilian sector. It was limited to the area of

individual actions rather than actions of a team, group, company, or corporation. The key here is how the individual can control his responses to stress. Research of technical medical aspects concerning stress, such as biochemistry, was not a part of this study. A further explanation of these limitations is found in chapter III.

### Structure of the Thesis

The remainder of the thesis is in five chapters. In chapter II, a review of literature is presented. It consists of a brief summary of research material reviewed and sources found to be most helpful. Chapter III presents the methodology followed throughout the study. Chapter IV, Summary of Research, is designed to provide an information background. It discusses stress, stressors, and military and civilian coping techniques. Chapter V analyzes the coping techniques for applicability on the battlefield. Finally, in Chapter VI, conclusions are presented.



## CHAPTER I

### ENDNOTES

1. Mullins, William S. and Glass, Albert J., eds. Medical Department, United States Army: Neuropsychiatry in World War II. Volume II. Overseas Theaters. Washington, D.C.: Office of the Surgeon General, 1973, p. 8.
2. Rock, Samuel K., Jr., and Robert J. Schneider. "Battle Stress Reactions and the Israeli Experience in Lebanon: A Brief Summary." Medical Bulletin of the US Army, Europe: 41:1 (January, 1984), pp. 9-11.
3. Belenky, Gregory Lucas, Shabtai Noy, and Zahava Solomon. "Battle Stress: The Israeli Experience." Military Review, pp. 31.
4. Schneider, Robert J. "Stress Breakdown in the Wehrmacht: Psychiatry and Society." Unpublished Paper, Walter Reed Army Institute of Research, Washington, D.C., 3 December 1986, pp. 1-37.
5. Williams, U.P. "They May Not Die - But They Wither Fast." Military Review. XXX (July, 1950), p. 21.
6. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. Washington D.C.: U.S. Government Printing Office, 8 December 1983, p. 20.
7. Mullins, Medical Department, United States Army: Neuropsychiatry in World War II. Volume II. Overseas Theaters, pp. 735-759.
8. Headquarters, Department of the Army. Field Manual 100-5. Operations. Washington D.C.: U.S. Government Printing Office, 5 May 1986, pp. 2-3.
9. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations, p. 20.
10. Williams, "They May Not Die - But They Wither Fast," p. 23.
11. Chernol, Brian H. "Psychiatric Casualties in Combat." Military Review. LXII (July, 1983), pp. 29-30.
12. Rock, "Battle Stress Reactions and the Israeli Experience in Lebanon: A Brief Summary.", p. 9.

13. Flora, Dale B. "Battlefield Stress: Causes, Cures and Countermeasures". Unpublished MMAS thesis. Fort Leavenworth, Kansas: Command and General Staff College, 1983, pp. 11-12.
14. Headquarters, Department of the Army. Army Regulation 40-216. Neuropsychiatry and Mental Health. Washington D.C., 10 August 1984, p. 8.
15. Ibid.
16. Headquarters, Department of the Army. Field Manual 101-5-1. Operational Terms and Symbols. Washington D.C.: U.S. Government Printing Office, 21 October 1983, p. 1-16.
17. Selye, Hans. The Stress of Life. New York: McGraw-Hill Book Company, 1956, p. 63, 74.
18. Selye, Hans. Stress Without Distress. New York: SIGNET Books, 1975, p. 147.
19. Ibid., p. 20.
20. Headquarters, Department of the Army. Army Regulation 40-216. Neuropsychiatry and Mental Health. p. 8.
21. Coelho, George V., David A. Hamburg, and John E. Adams, eds. Coping and Adaptation. New York: Basic Books, Inc., 1974, pp. 250-251.
22. Ibid., p. 251.

## CHAPTER II

### REVIEW OF LITERATURE

This chapter reviews the research literature upon which the study is based. It is divided by type of publication for ease of reference to the bibliography, and is sub-divided by subject matter.

This study is based on two categories of sources, military or military related, and other than military. While both categories provide works important to the study, they each provide a different dimension. The military works generally relate to the nature of the battlefield, sources of stress, soldier responses, battle fatigue casualty figures, development of neuropsychiatry, neuropsychiatric treatment methods, and controlling the soldier's environment. Works other than the military deal with stress and the nature of stress, responses and symptoms of stress, physical and emotional effects of stress on the body, self-evaluations which determine the sources of stress and its relative level, stress coping techniques and programs, and making the work place or daily environment healthier with less distress.

Many of the ideas and concepts of stress coping techniques presented in these works are not applicable to the battlefield. The difference is in the drastic change from the environment of everyday life, which is easily manipulated, to the life-threatening battlefield in which the soldier rarely has control over his environment. Often on the battlefield, the abnormal is considered normal.

### Books

Research began by locating sources which could provide general background information regarding stress and its affect on the soldier. Books found to provide good information on the nature of the battlefield and stress on the soldier are Combat Motivations: The Behavior of Soldiers in Battle by Anthony Kellest, The Sharp End: The Fighting Man in World War II by John Ellis, and two volumes by Samuel A. Stouffer, The American Soldier: Combat and Its Aftermath, Vol. I and The American Soldier: Adjustment During Army Life, Vol. II. Stouffer's volumes also provided a good analysis of soldier responses to battlefield stress. S.L.A. Marshall in Men Against Fire: The Problem of Battle Command in Future War also provides a good account of the fighting soldier as he interacts on the battlefield. Two works that provide excellent readings of stress on the soldier are Psychiatry in a Troubled World by William C. Menninger and Psychology of Survival: Human Reaction to the Catastrophes of War by Walo von Greyerz. Menninger provides results from several studies of reactions in combat. von Greyerz looks at human reactions in general, to include civilians caught on the battlefield. Particularly interesting is his description of the reactions of people who suffered from the nuclear explosions at Hiroshima and Nagasaki. This provides an account of the only nuclear weapons used on the battlefield, and provides insight into future nuclear war.

Under the direction of the Medical Department of the United States Army, two volumes were written presenting a detailed account of the development of neuropsychiatry and its treatment methods in World

War II: Neuropsychiatry in World War II, Volume I, Zone of Interior edited by Albert J. Glass and Robert J. Bernucci, and Neuropsychiatry in World War II, Volume II, Overseas Theaters edited by William S. Mullins and Albert J. Glass. These authors were psychiatrists at division or higher level during the war. The volumes present the difficult evolution of neuropsychiatry from the North African Campaign through the Italian Campaign. From the experiences during these campaigns, a standard treatment method was established for the remainder of the war. These two volumes present some of the most detailed battle fatigue casualty figures for the war. Another book presenting battle casualty figures and their significance is Battle Casualties: Incidence, Mortality, and Logistic Considerations by Gilbert W. Beebe and Michael E. De Bakey. These books point out that adequate data often was not gathered during the war because of the attitudes of many commanders which tend to deny the existence of psychiatric casualties. A good work, designed to be a reference manual, which provides a complete description of the treatment for battle fatigue casualties developed in World War II, is the Manual of Military Neuropsychiatry edited by Harry C. Solomon and Paul I. Yakovlev.

Several books deal with stress and the soldier from viewpoints other than the American experience. In Fighting Spirit: A Study of Psychological Factors in War, F. M. Richardson provides the British experience with stress. Richard A. Gabriel in Soviet Military Psychiatry presents the similarities and differences with psychiatric casualties between the Soviet Union and Western armies based on interviews of various Soviets now living in the west.

In the civilian sector, no person seems to have contributed more on the subject of stress than Hans Selye. In The Stress of Life he proceeds from the nature of stress, to presenting his widely accepted three phased General Adaptation Syndrome (GAS): Phase I - Alarm Reaction, Phase II - Resistance, and Phase III - Exhaustion. He analyzes the stress mechanism in health and disease, then explores how this knowledge furthers our understanding of how to face stress. In another work by Selye, Stress Without Distress, he describes what stress is, and what it is not. He then discusses the psychological mechanisms of stress and how to avoid distress.

Stress and Anxiety, Volume 4 edited by Irwin G. Sarason and Charles D. Spielberger, offers studies on stress, the nature of stress, reactions, and symptoms of stress by qualified experts.

Walter McQuade and Ann Aikman, in Stress: What Is It, What It Can Do to Your Health, How to Fight Back, give an excellent account of the mechanisms of stress and provide examples of stress, stress diseases, and ailments. This book is based on McQuade's award-winning article in Fortune magazine in 1972, in which he examines what stress can do to the cardiovascular, digestive, skeletal-muscular, and immunological systems. He also provides insight into how the mind and body handle stress and personal solutions to stress reduction.

There are many books available offering stress reduction techniques, programs, and plans. The variety of the solutions presented is vast. They begin with physiological exercises such as relaxation, breathing, isometric, and physical exercises. Then, there is cognitive control: positive thinking, realizing the difference between real worry

and neurotic worry, meditation, religion, attention diversion, and somatization. Education offers another solution, educating the individual on concepts of stress, stress reactions, its myths and truths. Other techniques include interpersonal skill development, manipulating the environment, assertive training, encounter groups, biofeedback, drugs, hypnosis, nutrition, and time management.

The following are some of the many how-to-books which provide stress reduction techniques. Most of these books, after briefly discussing the nature of stress and reactions to stress, present a combination of techniques as a solution. Many of these books also present self-evaluation tests, quizzes, and guides to aid the reader in determining the sources of his stress and its relative level. Beyond Stress to Effective Management, by Walter H. Gmelch, explores several strategies, plans, and programs ending with a seven step plan to stress management. In Letting Go of Stress, Jackie Schwartz subscribes a 15 day program which takes 15 minutes each day. Victor Pease, in Anxiety into Energy presents stress coping techniques as well as emphasizing eustress, the positive aspects of stress. Other how-to-books are 90 Days to Self-health, by C. Norman Shealy, and How to Avoid Stress Before it Kills You, by Matthew Culligan and Keith Sedlacek.

Three books which are particularly beneficial are The Relaxation Response, by Herbert Benson, Coping and Adaptation, edited by George Coelho and others, and Healthy People in Unhealthy Places: Stress and Fitness at Work, by Kenneth R. Pelletier. Benson centers on a simple technique adaptable to almost any environment, which is based on meditative practices. Coelho has compiled the contributions of 21

authors on social interaction and coping strategies. Palletier does a fine job of interrelating stress and work, and assessing health promotion programs of major corporations. He presents bad examples, explaining why they are bad, and also good examples, showing why they are beneficial.

Another approach to stress is under the label of job burnout. Books such as Burn-out: How to Beat the High Cost of Success, by Herbert J. Freudenberger and Geraldine Richelson, or Job Stress and Burnout, edited by Whiton Stewart Paine, deal with burnout stress syndromes (BOSS) and inadequate coping skills in the work environment. They suggest many techniques similar to stress reduction methods mentioned earlier.

In Stress and Anxiety, Volume 2, editors Irwin G. Sarason and Charles D. Spielberger draw from Meichenbaum and Cameron, 1973, to present an excellent model of stress inoculation. The inoculation process consists of three phases: Phase I - Education, Phase II - Rehearsal, and Phase III - Application Training. These phases are designed to "...assess the reality of the situation, control negative thoughts and self-statements, acknowledge use and possibly relabel the arousal they were experiencing, 'psych' themselves up to confront the phobic situation, cope with intense fear, and reinforce themselves for having coped."

#### Government Documents

The review of government documents provides historical information, current doctrine, and military writings concerning stress.



Pearse Bailey and other contributing editors compiled a volume on neuropsychiatry during the First World War, entitled The Medical Department of the United States Army in the World War: Neuropsychiatry, Volume X. It describes the development of understanding battle fatigue, called shell-shock and later called war neurosis. Towards the end of the war, through trial and error, an effective system of treatment for battle fatigue was developed. It consisted of psychiatrists at division level, separate neurological treatment facilities, and psychiatric hospitals for prolonged treatment. This was the method of treatment, lost during the interwar years, and relearned during World War II.

Documents on World War II, such as "Combat Psychiatry: Experiences in the North African and Mediterranean Theaters of Operation, American Ground Forces, World War II," edited by Frederick R. Hanson, and Annex 23 of the Replacement System World-Wide, World War II: Report of Replacement Board, Department of the Army, 1947, Book 5 (Annexes to Report) substantiate facts presented in earlier books.

Several references from the Operations Research Office, John Hopkins University, speak of battlefield stress experiences in the Korean War. Technical Memorandum ORO-T-41(FEC): A Study of Combat Stress, Korea 1952 (Preliminary Report) presents the results of a study following 100 soldiers in combat. The study examines the kinds and degree of physiological and psychological changes that occur as a result of stress on the infantryman in combat. Human Factors in Military Operations: Some Applications of the Social Sciences to Operations Research (ORO-T-259), discusses the nature of stress, psychological stress, effects of stress upon skilled behavior, and approaches that may

be taken to solve the problem of deterioration of performance due to stress.

Field Manual 100-5, Operations, provides the current AirLand Battle doctrine of the U.S. Army. It presents what the nature of the battlefield may be like in future war.

Four references provide current U.S. Army doctrine concerning stress on the battlefield. Army Regulation 40-216 states military policy of neuropsychiatric operations, the principles of treatment, and definition of terms. Field Manual 26-2, Management of Stress in Army Operations, presents stress as a problem, the effects of stress, stress recognition, and control and coping techniques. Although the discussions on battlefield stress are relevant, they talk only in general terms. The work does not provide a sufficiently detailed training plan or program for commanders to use. Field Manual 22-9, Soldier Performance in Continuous Operations, documents the degradation of soldier performance over time. It discusses stress in continuous operations and provides techniques for small units and commanders to implement, such as rotation cycles of work - rest - sleep, leadership techniques, communication techniques, and unit cohesion. Field Circular 16-51, Battle Fatigue Ministry, examines the Unit Ministry Team (UMT) approach and religious support considerations for soldiers suffering from combat stress.

Most of the writings in the military on stress are published in the proceedings of user workshops on stress sponsored by the Academy of Health Sciences, Fort Sam Houston, Texas. They provide a forum for psychiatrists, psychologists, and other medical service personnel

throughout the Army to present ideas, concepts, experiences, and studies over the complete range of stress in Army operations.

#### Periodicals and Articles

Although many periodicals publish articles pertaining to stress, the most helpful came from military periodicals, therefore most of the articles reviewed are from them.

The Military Review published several articles. An excellent article is, "They May Not Die - But They Wither Fast" appeared in July, 1950. The author, U. P. Williams, was an instructor at the U.S. Army Command and General Staff College when he wrote the article. He evaluates battle casualties of World War II, focusing on the neuropsychiatric casualty. He emphasizes the importance of manpower in future war and suggests procedures to reduce the casualty rate: proper introduction of personnel and replacements into combat, provide the infantryman short but frequent rehabilitating periods of relief from the front line through unit rotations, and give the infantryman knowledge that he will, after a certain designated time, be provided an extended period of relief from combat. Williams also states that initiation of a personnel conservation program must include education of future commanders regarding this problem.

Another excellent article from Military Review is one written by Henry L. Thompson in September 1983. In "Stress-Trains: Training for High Performance", he applies to unit staff the techniques common to the training of athletes. He discusses the high-performance training methodology that emanates from the General Adaptation Syndrome (GAS) of

Hans Selye. Thompson's "stress-train" conditions the staff in training to operate under stress and to develop staff drills so that it will be able to function under stress in combat. His "Stress-train" centers on six factors: stress, recovery, progression, balance, variety, and regularity.

Brian H. Chernol, in July 1983, wrote a very good article, "Psychiatric Casualties in Combat." It presents a discussion of psychiatric casualties in World War II, Korea, and Vietnam, and suggests certain actions that will minimize the effects of battle fatigue. Some of these actions are to provide treatment in the forward area, ensure adequate sleep, train soldiers to function in an NBC environment, maintain a high level of physical fitness, provide accurate and timely information to unit members, establish a "buddy system", reinforce religion and nationalism, capitalize on the soldier's desire not to let his fellow members down, provide a reliable medical evacuation system, and convince commanders to reintegrate recovered casualties back into their units.

Aray magazine also published several excellent articles. Three of the articles deal with the Israeli Defense Force -- December 1982, "Stress in Battle: Coping on the Spot," by Richard A. Gabriel, and in July 1983, "Emphasizing Cohesion, Morale Can Help Prevent Battle Stress," by David H. Marlowe and Larry H. Ingraham. These articles discuss the Israeli experience in the Yom Kippur War analyzing the severe breakdowns of manpower due to stress and the treatment of battle stress casualties by psychologists in the front lines. "The IDF Officer: Linchpin in Unit Cohesion," by Richard A. Gabriel and Reuven

Gal, appeared in January 1984. It presents the IDF system of officer selection and training, one that is unique. The officer rises through the ranks and is promoted based on battlefield experience. These officers remain members of a certain unit for a great deal of time, providing and promoting unit cohesion.

Air University Review, in March-April 1981, presented an article by Raymond G. Troxler and Harry P. Netzier entitled "Executive Stress." The article discusses job pressure associated with "Type A behavior," and ways to cope.

The "Defense Force Journal" provided an article by J. H. Griffin, "World War III: How can the Soldier Survive and Succeed?", in March-April 1985. It presents an Australian viewpoint of battlefield stress, identifying two additional stressors: the increased complexity of equipment, and increased public scrutiny through the media. Griffin states that the management of stress on the battlefield lies with controlling the stressors, along with realistic, relevant, and sufficient training aimed at allowing the soldier to experience the "...battlefield sights and sounds but without introducing undue stress".

Robert J. Schneider and Richard L. Luscomb in an article entitled "Battle Stress Reaction and the United States Army," published in Military Medicine in February 1984, present and analyze the results of a questionnaire of 261 randomly selected Army personnel. The questionnaire was designed to assess the knowledge and attitudes of the respondents concerning battle stress reaction (BSR), its symptoms and treatment. Knowledge was found to be very limited, and attitudes displayed mistrust of the BSR casualty. The authors point out the need

for this knowledge, especially by leaders on the battlefield, and provide the suggestions of education, command support, and effective stress management to correct the deficiency.

#### Unpublished Material

A monograph by James D. Coomler entitled, "Causes of Combat Stress in the Artillery Firing Battery Supporting High-Intensity Conflict in the European Theater," investigates the causes of combat stress in the artillery firing battery. It examines four primary causes of stress: fatigue, fear of becoming a casualty, isolation, and absence of leadership. Coomler concludes that diagnosis and awareness are an important first step to stress reduction, and that combat stress will be one of the most significant causes of manpower loss to the artillery in the future.

"Battlefield Stress: Causes, Cures and Countermeasures," a thesis by Dale B. Flora, provides a good overall summary of stress on the battlefield during major conflicts since World War I. Flora examines actions that commanders can take to minimize the occurrence and impact of battlefield stress. He concludes that battlefield stress is unavoidable in combat, and identifies positive steps to reduce the occurrence of stress casualties, and to minimize the effects of combat stress on the mission. These steps are: education training, building confidence and unit cohesion, communicating information better, and providing the soldier a temporary break from action when in combat.

## CHAPTER III

### METHODOLOGY

This study used historical methodology to review military and civilian documentary sources of individual stress-coping techniques. The techniques were then analyzed to determine how the individual soldier can control his responses to battlefield stress.

Due to the vast amount of information available concerning the subject of stress, the study was limited by necessity. It was limited in the following ways:

1. The study contains no classified material.
2. Research of historical aspects on battlefield stress was limited to the following four mid-to-high intensity warfare experiences: World War II, Korean War, Yom Kippur War, and Lebanon War.
3. Research was limited to 'individual' stress-coping techniques, not techniques of stress management in groups, companies, or institutions.
4. The study contains no research of the technical aspects of medicine concerning stress or its reactions, such as biochemistry.

Other conflicts, such as Vietnam, Grenada, and the Falkans were not studied because of the relatively low incidence of psychiatric casualties. In Vietnam, the US psychiatric casualty rate was 12 cases per 1000 soldiers. This rate was significantly lower than other conflicts (101 cases per 1000 soldiers for World War II, and 37 cases per 1000 soldiers for the Korean War).<sup>1</sup> The low casualty rate is

attributed to the nature of the war. There were few enemy bombardments, by either artillery or aircraft, enemy contact was usually brief, from a few hours to a few days, and the conflicts were characterized by smaller unit engagements. The soldier's attitude was oriented to the general time frame in which he would participate. In World War II, for instance, the soldier usually looked on death or medical evacuation as the only means of escaping the war. Conflicts in Grenada and the Falkans were short in duration and limited in scope. In Vietnam, there was a one year tour of duty for soldiers, which included a rest-and-relaxation trip of five to seven days in length.<sup>2,3</sup>

While researching the topic of individual stress-coping techniques during World War II, the Korean War, the Yom Kippur War, and the Lebanon War, it was found that material discussing individual stress-coping techniques was limited. Research of World War II and Korea produced references discussing individual stress-coping techniques, but not the Yom Kippur and Lebanon Wars. References relating to conflicts of the Israeli Defense Force principally discuss casualty rates, treatment procedures, and techniques which commanders and leaders use to lower the negative effects of stress on their unit as a whole, not techniques that individuals use for themselves. Therefore, research focused on World War II and the Korean War.

US Army doctrine was also reviewed to determine what, if any, individual coping techniques are presented. The doctrine names a few techniques but presents no details, nor does it give further references.

Civilian sources revealed an overwhelming amount of material concerning stress. Sources were narrowed to the limits of the study,



individual stress-coping techniques. This eliminated techniques used by a group of individuals as a group technique. It also eliminated techniques which superiors use to lessen the negative effects of stress on individuals.

It was not necessary to place further limitations on civilian sources, such as coping techniques used only in life-threatening situations. Based on the work of Dr. Hans Selye, all stress, regardless of the source, affects individual performance.\* Therefore stress-coping techniques in the civilian community should not be limited solely to life-threatening situations, such as those in which police and firemen find themselves. Many stressors on the battlefield are life-threatening, but not all are. Non-life-threatening stressors are quite common also, such as isolation, fatigue, noise, and uncertainty. Therefore, research was only narrowed to individual stress-coping techniques, regardless of the environment.

After reviewing historical warfare experiences, US Army doctrine, and the civilian sector for individual stress-coping techniques, study continued by evaluating each coping technique against criteria for its valid use on the battlefield. Criteria used in this evaluation is that the coping techniques:

1. does not require specially trained personnel to administer or oversee its application.
2. requires an acceptable level of formal training in order for an individual to learn to use it. Acceptable formal training is that which a battalion or company can conduct within the resource limitations of the unit.

3. requires no resources other than those normally available to the individual soldier on the battlefield.

4. is within the capability of the individual soldier to perform while on the battlefield.

5. is not significantly hindered by any other factor on the battlefield that would render it ineffective.

The last step in the methodology is to offer those coping techniques which have stood up to the criteria above, as effective means by which the soldier can control his responses to battlefield stress. The periods before, during, and after combat actions are used as a framework of relating coping techniques to their actual use on the battlefield. Before combat actions refer to the period of time generally used in preparation leading up to engagement with the enemy. During combat actions refer to the time when the individual is directly engaged in an operation or mission against the enemy. After combat actions refer to the period of time following an engagement with the enemy.

This before-during-after framework was chosen because one technique may not be applicable in all three time periods. A soldier has more time to do things before and after combat, rather than when he is actually participating in combat actions. Although it is helpful to have this distinction of three different time periods, it must be realized that often there is no clear beginning nor ending of the periods. They may, in fact, even overlap.

In summary, the methodology consists, first, of a review of military and civilian sources to determine individual stress-coping

techniques; second, an analysis of those techniques against a set of criteria determining their usefulness on the battlefield; and last, offers those techniques meeting the criteria as a means by which the soldier can control his responses on the battlefield before, during, and after combat.

### CHAPTER III

#### ENDNOTES

1. Bourne, Peter G. Man, Stress, and Vietnam. Boston: Little, Brown and Company, 1970, pp. 74-75.
2. Ibid.
3. Schulthesis, William F. "Combat Stress Casualties in Perspective", Proceedings: User's Workshop on Combat Stress. held at Fort Sam Houston, TX 2-4 September 1981: Academy of Health Sciences, December 1983, p. 9.
4. Selye, Hans. Stress Without Distress. New York: SIGNET Books, 1975, p. 27.

## CHAPTER IV

### SUMMARY OF RESEARCH

This chapter briefly summarizes research of the study, and provides a base of knowledge from which the analysis can be conducted. The chapter is divided into several sections: the nature of stress, U.S. Army doctrine concerning stress, and individual coping techniques which are broken down into two categories (military and civilian based).

#### The Nature of Stress

Two individuals, Drs. Walter B. Cannon and Hans Selye, have formulated the foundation from which current stress research is based. Dr. Cannon, in the 1920s and 1930s, developed his concept of "emergency response." The emergency response, later termed the fight or flight response, "...is the physiological change that occurs in the body when people believe they are in physical danger."<sup>1</sup> When a danger is presented, the body slows all nonessential activities and readies itself for action. The pupils dilate, blood pressure increases, and stress hormones are released. If this danger persists, and the flight or fight response is continuously activated, the high hormone level presents harmful effects such as hypertension, headaches, ulcers, or heart disease. Through the fight or flight response, Dr. Cannon demonstrated the close relationship that exists between the body's reactions to stress and the output of hormones.<sup>2</sup>

Dr. Hans Selye developed the definition of stress commonly used today. "Stress is the nonspecific response of the body to any demand made upon it."<sup>3</sup> He defines a nonspecific change "...as one which affects all or most parts of a system without selectivity. It is opposite of a specifically formed change, which affects only one or, at most, a few units within a system."<sup>4</sup>

When an individual is exposed to cold, the body tries to adjust to the cold. The cold places a demand for adjustment throughout the body. Two specific bodily responses to this demand are the contracting blood vessels in the skin which act to reduce heat loss, and shivering, which produces heat. Selye labels the body's adaptation to this nonspecific demand for adjustment as stress.

He also states that stress can be produced by both pleasant and unpleasant situations.

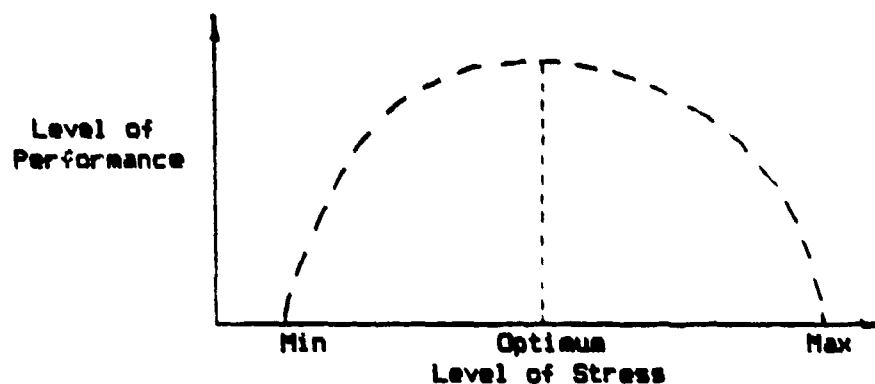
The mother who is suddenly told that her only son died in battle suffers a terrible mental shock; if years later it turns out that the news was false and the son unexpectedly walks into her room alive and well, she experiences extreme joy. The specific results of the two events, sorrow and joy, are completely different, in fact, opposite to each other, yet their stressor effect - the nonspecific demand to readjust herself to an entirely new situation - may be the same.<sup>5</sup>

No matter how different things may be, they all "...provoke an identical biochemical reaction in the body."<sup>6</sup> In fact, almost anything can produce stress.

"Stress is not always the...result of damage."<sup>7</sup> The effect of stress is based upon how demanding the stressor is. A stressor is defined as that which produces stress.<sup>8</sup> Examples of stressors which do not result in damaging harmful effects are a game of chess and a

passionate embrace. Stress which produces damage and harmful or unpleasant effects is called "distress."<sup>9</sup> Stress can also be positive. This type of stress, called eustress, does not produce harmful or unpleasant effects. With high levels of eustress, however performance can suffer, just as with high levels of distress.

Figure 1. Level of Performance Versus Level of Stress.



Sources: Levi, Lennart. Preventing Work Stress. Reading, Massachusetts: Addison-Wesley Publishing Company, 1981.

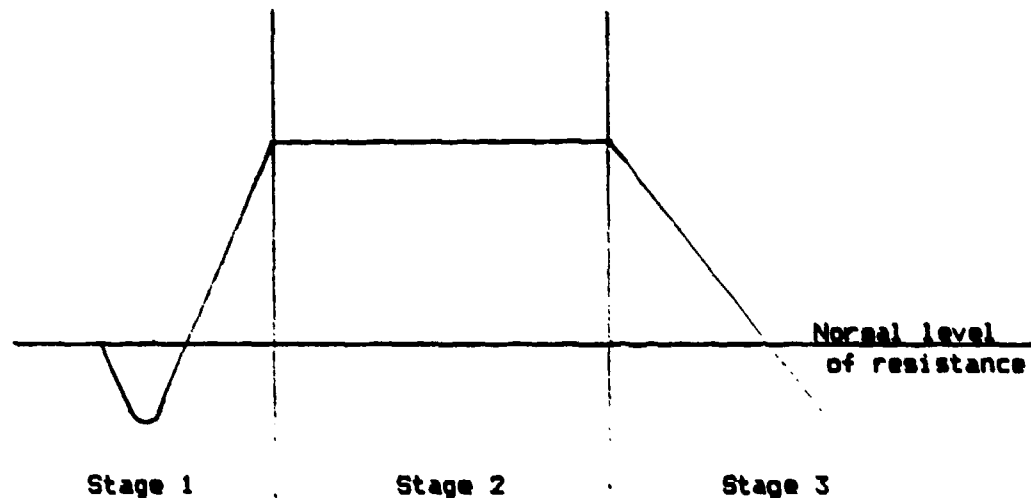
It is now a certainty that improved job performance is linked to increased stress up to a certain point but that a point of diminishing returns is soon reached where excess stress causes performance to deteriorate... [This is the essence of] the Yerkes-Dodson Law. At the center of the curve is the 'performance zone' where manageable stress results in high efficiency and productivity. Too little stress, at the bottom of the curve, or too much stress, at the top, cause performance and efficiency to decrease."<sup>10</sup>

Stress cannot be avoided. This is clear simply by understanding the definition of stress, "any nonspecific bodily response to a demand." Regardless of what you do, your body is continually responding to its

surroundings. It is continuously experiencing stress. "Complete freedom from stress is death."<sup>11</sup>

Dr. Selye added to the discovery and research of Dr. Cannon with the relationship of the body's reaction to stress and the output of hormones. He developed the general adaptation syndrome (G.A.S.). This syndrome is very important because it gave the first indication that the body's ability to adapt has limits. The G.A.S. consists of three phases.

Figure 2. General Adaptation Syndrome (GAS).



Source: Selye, Hans. Stress Without Distress. New York: SIGNET Books, 1975.

**Stage 1 (Alarm Reaction):** The body shows the changes characteristic of the first exposure to a stressor. At the same time, its resistance is diminished and, if the stressor is sufficiently strong (severe burns, extremes of temperature), death may result.

**Stage 2 (Resistance):** Resistance ensues if continued exposure to the stressor is compatible with adaptation. The



bodily signs characteristic of the alarm reaction have virtually disappeared, and resistance rises above normal.

Stage 3 (Exhaustion): Following the long-continued exposure to the same stressor, to which the body had become adjusted, eventually adaptation energy is exhausted. The signs of the alarm reaction reappear, but now they are irreversible, and the individual dies.<sup>12</sup>

Although the ability of the body to adapt is finite, the body can be restored to normal. There is a difference between "superficial" and "deep" ability to adapt. "Superficial...is immediately available upon demand...deep...is stored away safely as a reserve."<sup>13</sup> The stage of exhaustion can be reversed after a temporary demand. But when reserve ability to adapt is depleted, harmful effects begin to occur which may result in death.

Many individuals have identified stressors, those factors which produce stress. Lists have been compiled of stressors on the battlefield and in a civilian working environment. General differences exist between the lists. Stressors commonly found on the battlefield, are not commonly found in the civilian environment. This is understandable because the soldier on the battlefield faces the threat of death and mutilation, not usually common in a civilian environment. Although battlefield stressors produce a higher level intensity of stress than in the civilian sector, many stressors are common to both environments.

Stressors may differ, but they still produce the same demand for nonspecific responses of the body. In other words, although the source of stress differs, stress itself does not.

Shown below are two of the many lists of stressors. The first

one is a compilation from several sources of typical stressors the soldier copes with on the battlefield. The second one lists stressors identified by health care administrators and middle-management executives.

Table 1. Battlefield Stressors.

Fear	Separation from family
Danger	Privations
Self-preservation	Fatigue
Mutilation	Conflicts of values
Sight & sound of wounded/dying	Noise
Loss of comrades	Reduced visibility
Sniping	Intense light
Intense pain	Climate
Uncertainty	Terrain
Lack of information	Smoke
Isolation	Sustained operations
Boredom	Frustration
Restriction of personal movement	Bombing in non-combatant areas
Physical discomfort	Reassignment of battle casualties
Inadequate sleep	Replacement system (WW II)
Inadequate food & drink	Unlimited tour of duty (WW II)
Deprivation of sexual & social satisfactions	
Disparity of privilege (men in rear vs. at the front)	

Sources:

Kellett, Anthony. Combat Motivation The Behavior of Soldiers in Battle. Boston, MA.: Kluwer-Nijhoff Publishing, 1982.

Menninger, William C., Psychiatry in a Troubled World: Yesterday's War and Today's Challenge. New York: The Macmillan Company, 1948.

Operations Research Office. Human Factors in Military Operations: Some Applications of the Social Sciences to Operations Research (ORO-T-259). Chevy Chase, Maryland: John Hopkins University, September 1954.

Stouffer, Samuel A. et al. Studies In Social Psychology In World War II. The American Soldier: Combat and Its Aftermath. Vol II. Princeton, New Jersey: Princeton University Press, 1949.

Table 2. Stressors in the Civilian Work Place.

Job-Related Factors

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| 1. Need to work fast             | 16. New supervisor or subordinate   |
| 2. Work overload                 | 17. Status incongruency             |
| 3. Ambiguous roles               | 18. Under- or overpromotion         |
| 4. Inadequate information        | 19. At career capacity              |
| 5. Vague objectives              | 20. No input into decision          |
| 6. Role conflict                 | 21. Performance evaluations         |
| 7. Job satisfaction              | 22. Time constraints                |
| 8. Responsibility for people     | 23. Competition, not cooperation    |
| 9. Lack of job security          | 24. Closed organization climate     |
| 10. Obsolescence                 | 25. Quality of work life            |
| 11. Early retirement             | 26. Major changes in policies       |
| 12. Too little responsibility    | 27. Management by crisis            |
| 13. Being redundant              | 28. Sociopolitical constraints      |
| 14. Relationship with the boss   | 29. Inability to delegate           |
| 15. Relationship with colleagues | 30. Leadership style incongruencies |

Factors within the Individual

- |                                |                                |
|--------------------------------|--------------------------------|
| 1. Low self-esteem             | 14. Impatient, pressured       |
| 2. Workaholic                  | 15. Frustration                |
| 3. Financial problems          | 16. Ambiguity                  |
| 4. Compromised values          | 17. Feeling threatened         |
| 5. Family demands              | 18. Lack of control            |
| 6. Marriage                    | 19. Low self-actualization     |
| 7. Relocation and mobility     | 20. Death of a family member   |
| 8. Hidden agenda               | 21. Serious illness            |
| 9. Emotional health            | 22. Low social support         |
| 10. Conformity, submissiveness | 23. Fear of success or failure |
| 11. Rigid personality          | 24. Inability to ventilate     |
| 12. Competitiveness            | 25. Inability to let go        |
| 13. Overaggressiveness         |                                |

Source: Richard E. Winter, ed. Coping with Executive Stress: Executive Health Examiners. New York: McGraw-Hill Book Company, 1983.

### Symptoms

When under stress, the body reacts by trying to adapt to the stressor. The body shows signs of this adaptation process, which may be called symptoms of stress. FM 26-2 provides an exhaustive list of the signs of normal reactions to stress in combat. These signs are broken down into two groups, signs of stress in yourself, and signs of stress in others:

Table 3. Signs of Normal Reactions to Stress in Combat.

Signs of Stress in Yourself

Aggression	Irritability
Anxiety	Loneliness
Apathy	Low self-esteem
Depression	Moodiness
Diarrhea	Nausea
Dry mouth	Nervousness
Fatigue	Nightmares
Forgetfulness	Numbness/tingling
"Freezing" (of muscles)	Pounding heart
Frustration	Rationalization
Guilt	Sweating
Headaches	Tension
Hot and cold spells	Frequent urination
Inability to concentrate	

Signs of Stress in Others

Alcohol	One-track thinking
Denial	Regressive reactions
Drugs	Restlessness
Emotional outbursts	Risk taking
Excitability	Smoking
Impulsive behavior	Speech disorder
Inadequate eating or drinking	Trembling
	Negativism

Source: Headquarters, Department of the Army. Field Manual 26-2, Management of Stress in Army Operations. Washington, D.C.: U.S. Government Printing Office, 8 December 1983.

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John Dollard and M.R. Kaufman recorded reactions of soldiers under fire in World War II. The four most common reactions were: violent pounding of the heart, a sinking feeling in the stomach, breaking out in a cold sweat, and shaking or trembling all over.<sup>14</sup>

### U.S. Army Doctrine

The focus of current U.S. Army doctrine is "to manage the harmful effects of stress on soldier performance in order to preserve combat power and enhance sustained and continuous operations capability..." on the AirLand battlefield.<sup>15</sup> It consists of the following areas: first, informing soldiers and leaders of stress characteristics, sources of combat stress, symptoms, and effects; secondly, informing leaders of actions they can take in the management of stress in units; and third, treatment of battle fatigue casualties by medically qualified personnel.

This doctrine comes from several sources, primarily, from FM 26-2, Management of stress in Army Operations. In August, 1986, FM 26-2 was revised from the December 1983 edition. The revised version is more condensed. It deletes some items, most of the material on individual coping techniques, and adds other items of stress management, as originally written in an earlier draft of FM 26-2.

Other sources that add to and support Army doctrine are FM 22-9, Soldier Performance in Continuous Operations, FC 16-51, Battle Fatigue Ministry, TSP No. S1-9002.07-0114, Identify and Apply Special Leadership Considerations to Minimize the Effects of Battlefield Stress on Unit Operations, and FM 22-100, Military Leadership. Under development is another training support package at the U.S. Army Soldier Support Center. It deals with the effects of continuous operations on soldier performance and discusses how to identify, treat, and prevent battle fatigue.

Stress characteristics discussed in Army doctrine are taken directly from the work of Hans Selye. Both the definition of stress and the stress response stages of his general adaptation syndrome are followed. Other topics presented are sources of combat stress, stressors, the recognition of stress, and stress' signs and symptoms.

The management of stress is emphasized as a command responsibility. Inclusive in this responsibility is "Initiating and supporting stress management programs. Providing information to reduce stress. Ensuring that each soldier has mastered at least one stress-coping (relaxation) technique."<sup>16</sup> Much of stress management is basically providing for the soldiers' welfare. This includes such measures as ensuring that soldiers are adequately supplied with food, water, shelter, cover, rest, physical conditioning, training, information, medical and logistical support, and care in personal and family matters.<sup>17</sup>

Current treatment principles are based on experiences developed over time, initiated in World War I and developed up through the Vietnam War. The principles developed are as follows:

- treatment is begun early
- treatment is close to the unit
- treatment is in a military atmosphere rather than in a hospital
- mild and moderate cases are treated at battalion level
- quick return to duty
- only battle fatigue casualties that can not be handled forward, and NP patients are sent to division level
- in noncombat situations casualties are treated on an outpatient

basis

- proper assignment of qualified medical personnel
- maintain communication both up and down for evacuation and technical information<sup>18</sup>

In other words these principles follow the concept of proximity, immediacy, and expectancy (PIE).

Proximity (closeness). Help soldiers with stress symptoms cope within their own squad, platoon, company, or battalion area, in that order. The farther they are from the primary group, the more difficult it is to help them return to normal duty. Proximity also means keeping soldiers as close to the action as possible to reinforce their identity as soldiers, not casualties.

Immediacy. Start to help immediately. Do not let the soldiers sit idly with the symptoms; help them cope as early as possible.

Expectancy. Expect the soldiers to act like soldiers and return to normal duty after a sufficient but brief rest (rarely more than 2 days).<sup>19</sup>

U.S. Army doctrine generally covers the topic of stress quite well, but some areas may need improvement. Basic definitions of stress and stress related terms are not always compatible. Some references use terms defined by the Israeli Defense Force while others avoid them. There are numerous definitions and terms which are closely related. Comprehension is difficult when terms overlap in meaning, when several terms are used to mean the same thing, and when terms differ only by shades of meaning. It would serve soldiers and leaders better to limit terms to those required, and to standardize definitions.

FM 26-2, the basic document that deals with stress in



operations, discusses the physical and emotional well-being of the soldier, but it neglects to discuss the third dimension, the spiritual needs. This is being corrected by the U.S. Army Chaplain Center with the concept of the Unit Ministry Team, (UMT). The UMT is a military support group for soldiers, leaders, and units that administers to the pastoral care and religious support in both peacetime and combat. In this capacity the UMT, usually consisting of a chaplain and chaplain's assistant, addresses the "...restoration of spiritual and emotional health and the maintenance of such wholeness in the soldier...[which] reduces the occurrence or severity of combat stress reaction, improves the replenishment rate, and reduces the time needed in the replenishment process."<sup>20</sup>

FM 26-2 lacks sufficient detail for leaders to initiate an effective stress management program. It discusses principles and concepts but provides little detailed assistance in initiating and executing an effective program. The field manual states that "Coping with one's own stress means controlling it. [Soldiers]...must know how to use coping techniques to counteract stress. Soldiers should receive a block of instruction on stress-coping techniques..."<sup>21</sup> But, the manual gives no details of these techniques.

Three organizations are currently developing training support packages (TSP), which include lesson plans, to take care of these deficiencies. The organizations are the U.S. Army Academy of Health Services, U.S. Army Soldier Support Center, and U.S. Army Command and General Staff College. These training support packages are primarily for use at battalion level and below. They concentrate on teaching what

stress is, the effects on soldier performance, and identifying, treating, and preventing battle fatigue.

#### Individual Coping Techniques (Military)

Individual coping techniques were researched by examining three different sources: Army doctrine, historical examples, and the civilian sector. Although U.S. Army doctrine does discuss coping techniques, it is not discussed in any depth. Techniques in the doctrine are primarily drawn from the civilian sector. Historical examples provide insight to techniques already used by soldiers, but once again, not in great detail. This is due to the very difficult problem of gathering data under the extreme conditions of the battlefield. The civilian sector was found to consist of many references of coping techniques and applying them to a variety of situations wherever distress is found.

Individual coping techniques in Army doctrine are discussed principally in FM 26-2, FM 22-9, GTA 21-3-4. The following table is a list of coping techniques presented in Army doctrine. These techniques provide individuals a means of alleviating distress and preventing deterioration of their performance during operations. Some methods are openly discussed as coping techniques, and labeled as such. But others, are presented as hints or additional ways to cope with stress, not as coping techniques.

Table 4. Individual Coping Techniques. (U.S. Army Doctrine)

Relaxation	Education
Deep Breathing	Real vs. Neurotic Realization
Muscle Tension-Relaxation	Develop Skills, Attitude, Commitment
Self-Suggestion	Imagery
Meditation	Interpersonal Relations (ventilation)
Inoculation	Control use of Stimulants
Physical Fitness	Performance Support Equipment
Pace Yourself	Overtraining

Sources:

Headquarters, Department of the Army. Field Manual 22-9. Soldier Performance in Continuous Operations. Washington D.C.: U.S. Government Printing Office, 8 December 1983.

Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. Washington D.C.: U.S. Government Printing Office, 8 December 1983.

Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. Washington D.C.: U.S. Government Printing Office, 29 August 1984.

Headquarters, Department of the Army. Graphical Training Aid 21-3-4. Battle Fatigue: Normal, Common Signs: What to do for Self & Buddy. Washington D.C.: U.S. Government Printing Office, March 1986.

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FM 26-2 presents basic techniques for individuals to cope with stress. The December 1983 edition discusses four categories of techniques: relaxation, self-suggestion, meditation, and inoculation. Relaxation is a technique designed for use almost anywhere once mastered through practice. Relaxation calms the mind and muscles of the body, eliminating tension and stress. Self-suggestion, as presented here is designed to achieve deep mental and physical relaxation through the

repetition of phrases. Meditation is a combination of relaxation and self-suggestion which requires deep concentration. Inoculation consists of two phases, education and rehearsal. After presenting stressful situations, ways in which to cope with them are offered and practiced.

The revised edition of the FM 26-2, dated August 1986, contains only three techniques, deep breathing exercises, muscle tension-relaxation exercises, and cognitive exercises including self-suggestion, imagery and meditation. Much of the two editions of this manual overlap on this subject. The difference between them is that the 1983 edition contains specific details of how to perform the techniques discussed. In the 1986 edition, these details were omitted and only the categories of techniques mentioned.

FM 22-9, Soldier Performance in Continuous Operations, presents additional techniques under the titles of "Development of Coping Skills" and "Tactics for Soldier Resources Conservation". The first technique is physical fitness, "...the ability of the body to stand up under prolonged extraordinary demands without harm. Soldiers...develop...fitness to increase their work capacity and their ability to withstand the stresses of continuous operations."<sup>22</sup>

Pacing oneself is another technique of coping. It allows soldiers to continuously work at a maximum rate without performance deterioration.

Positive attitudes and commitment are acquired over time, and give soldiers extra strength to carry out necessary tasks.

"Performance supports" are items of equipment such as binoculars, night vision devices, and hand-held calculators that assist

soldiers to successfully accomplish tasks, particularly when their performance is degraded.

Controlling the use of mild stimulants, such as drinks containing caffeine and tobacco (which contains nicotine) is another technique. When heavy use is discontinued, unwanted side effects of withdrawal symptoms are experienced. By limiting the use of these stimulants, heavy withdrawal symptoms are not experienced, and when the stimulants are used, their effects will be enhanced.

Overtraining is the last technique discussed in FM 22-9. It provides resistance to performance deterioration by overtraining on skills. Training to the point of being able to "do it with your eyes closed" effectively hardens that skill to performance deterioration.

Additional techniques are discussed in two other Army documents. The first document is the Stress Management Seminar Notebook used in the Pre-command Course at the U.S. Army Command and General Staff College. This reference is used to instruct future battalion and brigade commanders in stress coping techniques in order to develop their own personal stress management program. Additional techniques beyond those discussed in Army doctrine are presented. Secondly, the draft of FM 26-2, contains coping techniques not in the published version. Techniques from these sources are shown below:

Table 3. Additional Individual Coping Techniques.

Religion (Prayer)	Education
Self-Talk	Realistic vs. Neurotic Realization
Positive Reframing	Professional Therapy
Positive Affirmations	Biofeedback
Nutrition	Imagery

Sources:

U.S. Army Command and General Staff College. Stress Management Seminar Notebook. Fort Leavenworth, Kansas, March 1984.

Headquarters, Department of the Army. Field Manual 26-2, Management of Stress in Army Operations. Unpublished draft. Washington D.C.: U.S. Government Printing Office, 8 December 1983.

Categories of techniques presented in the Stress Management Seminar Notebook are biofeedback, prayer, support groups, nutrition, realistic expectations, self-responsibility, professional therapy, positive attitude and effective communication. Details of these techniques are not presented, but the notebook does cover nineteen specific examples of stress-coping exercises. Most of these examples are centered on relaxation and imagery.

The initial draft of FM 26-2 includes techniques and details of how to perform them. These are positive affirmations, positive reframing, self talk, religious faith (prayer), and imagery. Positive affirmations help the soldier to concentrate on what is positive and downplay what is negative. Positive reframing takes a negative event and finds something positive in it. "It is very much like finding a

silver lining in every cloud."<sup>23</sup> Self-talk focuses the soldier's attention on the immediate task at hand, allowing him to concentrate and carry it out. Religious faith, or prayer, provides many with a source to deal with stress and uncertainty. It may provide assistance to the soldier to review his beliefs, to pray, or to read scripture. Imagery is designed to "...reduce and control mental tension and anxiety."<sup>24</sup> The soldier visualizes pleasant images which bring on mental and physical relaxation. "This is much like the act of daydreaming but it is more deliberate. It can be done practically anywhere at anytime. The key is for the soldier to develop a rich and pleasant scene in his mind and to filter out all competing thoughts and ideas."<sup>25</sup>

Research of historical examples reveal several coping techniques, or mechanisms, that soldiers use to alleviate anxiety and to handle the deteriorating effects of stress. Most of these methods come from World War II concerning neuropsychiatric casualties and soldier performance deterioration. Works have been written by many psychiatrists and psychologists, who as members of the Army Medical Corps during World War II treated NP casualties. Studies were conducted during the Korean War concerning soldier performance, but little was found to directly relate to the subject of this thesis. No substantial information concerning individual coping techniques was found from the Yom Kippur War and the War in Lebanon. Information concerning stress and stress casualties in these wars centered on the treatment of casualties and ways in which the Israeli Defense Force institution, rather than the individual, help reduce the effects of stress and prevent the occurrence of neuropsychiatric casualties. Therefore, for

the topic which this thesis addresses, some historical information is available from the Korean War, but most comes from World War II.

The following table lists coping techniques and mechanisms used by soldiers during these two conflicts. Labels for these techniques varied with each author. Some techniques were commonly discussed throughout most of the references, such as prayer. Some of the techniques overlapped, combining several into one.

Table 6. Coping Techniques & Mechanisms. (World War II & Korean War)

Personal Invulnerability	Interpersonal Relations (Ventilation)
Fatalism	Distraction (Attention diversion)
Physical Fitness	Concentration (On the task at hand)
Control of Environment	Education
Religious Faith (Prayer)	Superstition

Some techniques used are similar to ones professed today, in Army doctrine or by civilian experts. But others, although they helped soldiers cope, are not true coping techniques. Instead of being coping techniques, they are defense mechanisms. These mechanisms are merely temporary "...defenses against anxiety [which] can also be viewed as distorted adaptations of effective ways of coping with conflicts..."<sup>24</sup> Two of these defense mechanisms commonly seen are personal invulnerability and fatalism.

Personal invulnerability is when "...the individual believes that, although others may die, it can't happen to me."<sup>27</sup> This was also



called a "sense of immunity".<sup>29</sup> This mechanism tends to appear in the beginning of the combat tour in the individual. But, as he sees comrades die, and has close calls himself, his belief fades and it no longer protects him from anxiety.

Fatalism, another defense mechanism, "...is characterized by the feeling: I'll probably get it on the next mission, but I don't give a damn."<sup>30</sup>

Grinker, a psychiatrist in the Army Air Forces in World War II noted that the protection of these methods is "...unstable and often breaks down when the individual comes close to the end of his combat tour... [Fatalism] is closer to a masked depression than to a successful adaptation."<sup>30</sup> Grinker goes on to state that these mechanisms have several bases: past positive experiences which bring with them a sense of self confidence, religious faith which may bring with it protective benevolence, and superstitious devices and luck.

Physical fitness is one coping technique that has commonly been recognized as one which is essential in combat since ancient history. Along with physical fitness is the idea of good health. Stress brings on reactions of "exhaustion" and "fatigue" which good physical conditioning deters.

Control of the environment is a coping technique which is often taken for granted. It must be recognized that the soldier on the battlefield does not have very much control of his environment. He must remain there to follow orders and fight the enemy in whatever terrain, weather, and other conditions exist. But, although the soldier does not have complete control, there are things he can control. He can rest or

sleep when not directly engaged in combat, ensure he takes sufficient liquids and food, and ensure basic personal hygiene is maintained, such as changing wet socks. Although the soldier is not able to control the whole environment, he can control certain factors within it.

Interpersonal relations and ventilation cover several items. Buddy relations and relations with others in the unit appear to maintain soldiers in combat. When posed the following question, "When the going was tough how much did it help you to think that you couldn't let the other men down?",<sup>31</sup> the majority, particularly officers, answered that it helped alot. The feeling of responsibility and obligation helped men cope. Verbalizing their feelings, fears, and attitudes also helped. This may be in the form of talking with one another, using humor, or simply by grumbling.<sup>32,33,34</sup>

Education, a general category, has several aspects to it. First, soldiers were encouraged to "...adopt a permissive attitude toward their symptoms when confronted with objective danger."<sup>35</sup> In World War II this was communicated to soldiers in almost all media forms. Its purpose was to educate the soldier that, during war, fear is common in everyone, and it is not shameful to recognize and admit to having fear. Authorities believed that fear will not hinder you when remembering how you were taught to fight and carrying out your duty.

The soldier should also be aware of his reactions under stress and how they affect his performance.<sup>36</sup> To do this, the soldier must receive instruction on the signs and symptoms of stress.

Soldiers were also taught using the logic and rational of a "...statistical defense, based on the low statistical probability of

being killed on any one mission."<sup>37</sup> Soldiers were taught and practiced combat skills while in a simulated stress environment. This environment attempted to closely simulate stressful conditions on the battlefield, and was usually in the form of an infiltration course with machineguns firing overhead. Another concept in education of the soldier is "overlearning". "Overlearning means practicing a skill beyond the point of just being able to do a satisfactory performance. The more an individual can perform his job automatically and incisively the less chance there is that the usual symptoms of fear will disturb his performance."<sup>38</sup> Education and training also serve to provide the soldier with self confidence. By learning the characteristics and effects of weapons it gives him confidence in his own weapons, and by learning about enemy weapons it takes away fear of the unknown. Through education and training, on weapons, on other arms of the service, and on tactics, the soldier gains confidence in his leaders, himself, his fellow soldiers, and others that support him.

Prayer is the technique most commonly referred to that provides for individual coping. World War II studies provide quantitative data. Prayer was regarded as a very important source of support. 83% of the enlisted men in the Mediterranean Theater, and 70% in the Pacific Theater stated that it helped alot. The percentage of officers was somewhat less, in the Pacific Theater - 62%, and the European Theater - 57%.<sup>39</sup> These studies reveal the percentage of soldiers that believed prayer helped them in tough situations, but the studies did not relate whether soldier performance was actually enhanced or to what degree.

Other techniques which helped soldiers cope were distraction and

concentration. Distraction, in the form of movement or work of any type, dissipates the soldier's anxiety. Examples of work and movement are weapons cleaning, and emplacing mines. This tends to take away the soldier's opportunity to think about himself and reflect on his fears. Concentration provides a framework to work within and was found to be a psychological adjustment to stress by "...restricting time perspective to the present moment..."<sup>40</sup> By concentrating on the task at hand the soldier can not reflect on the past or future.

#### Individual Coping Techniques (Civilian)

Research of individual coping techniques in the civilian sector reveals a wide variety of techniques and methods. Many techniques are very similar, differing slightly from author to author. Some are actually combinations of several different techniques. Techniques have developed from many diverse fields, such as psychiatry, cardiac medical care, sports, and business. Most of the techniques have shown significant results through clinical research, studies, and surveys. Techniques can be placed into five broad categories: physiological, cognitive, environmental manipulation, education, and professional assistance. The following table depicts these five categories.

Table 7. Individual Coping Techniques. (Civilian)

- I. Physiological Exercises
    - Relaxation Exercises
    - Progressive Relaxation Exercises
    - Breathing Exercises
    - Physical Exercises
    - Behavior Modification
    - Meditation
  - II. Cognitive Control
    - Positive Thinking
    - Religion (Prayer)
    - Attention Diversion
    - Autogenic
    - Being Assertive
  - III. Personal Skills
    - Interpersonal Relations/Communications
    - Environmental Manipulation
    - Education
  - IV. Professional Assistance
    - Biofeedback
    - Psychotherapy
    - Hypnosis
    - Drugs
- 

Progressive relaxation. Progressive relaxation consists of voluntary skeletal muscles. It achieves low tension in major muscle groups.<sup>41</sup> Dr. Edmund Jacobson, a physiologist, theorizes that "...relaxation and anxiety are mutually exclusive. They cannot coexist. When muscles are truly relaxed, there can be no anxiety."<sup>42</sup> Progressive relaxation exercises are based upon tensing and relaxing different muscles throughout the body. By contrasting tension with relaxation one can learn to control tension and relax.

Breathing exercises. Breathing exercises help the individual relax. Breathing slowly, deeply, and rhythmically can almost

immediately bring on changes in the physical indicators of stress.<sup>43</sup>

**Physical exercise.** Physical exercise is commonly looked upon as a factor that can aid in preventing stress. Dr. Kenneth H. Cooper developed the theory of aerobics, which many people follow today to gain and maintain physical fitness.<sup>44</sup> "Any form of exercise, if practiced regularly, can serve as an antidote to stress."<sup>45</sup> Regular exercise can help overcome excessive fatigue." Studies have shown that physical activity may help the quality of sleep, and improve the efficiency of the heart.

**Behavior Modification.** Type A behavior is commonly recognized as having harmful affects, a major factor in coronary heart disease and heart attack. By tempering Type A behavior, positive benefits can be achieved, such as reduction in coronary heart disease risk and self-induced stress, increased efficiency and productivity, increased general health, and a sense of well-being. Drs. Meyer Friedman and Ray H. Rosenman have conducted considerable research in developing methods for controlling Type A behavior. These methods basically teach the individual the true nature of his behavior and what he can do to modify it.<sup>46</sup>

Drs. Robert J. Kriegel and Marilyn H. Kriegel also prescribe a form of behavior modification. Their theory is that personality types A and B are "...clearly insufficient as performance models for the pressures of the 1980s work world."<sup>47</sup> They have identified a third type of behavior, beyond Types A and B, which they call Type C. Type C, the "C zone", is in between Type A, the "panic zone", and Type B, the "drone zone". The basic distinction between the three zones is that in the C

zone stress is controlled. In the panic and drone zones stress is not controlled and performance is degraded.

Meditation. There are several techniques of meditation. Most meditation techniques are recommended to be practiced twice a day for twenty minutes. Meditation techniques have proven to slow the heart, breathing, and oxygen consumption rates, and lower blood pressure and the depth of breathing. These techniques have helped to improve job performance, high blood pressure, peptic ulcer, insomnia, and other stress-related disorders.<sup>48</sup> Some of these techniques are Transcendental Meditation, the Relaxation Response, and Clinically Standardized Meditation.

The Relaxation Response is a meditation method of coping based on religious and meditative practices common in almost all cultures of East and West, but without any religious connotations. Hubert Benson states that the relaxation response is opposite of the commonly known fight or flight response. It is a natural and innate protective mechanism which when triggered allows us to turn off harmful bodily effects to counter the fight or flight response. The four essential elements which are necessary to bring on the relaxation response are a quiet environment, a mental device (word or phrase to be repeated), adoption of a passive attitude, and a comfortable position. The benefits of the relaxation response focus on hypertension and its results, stroke, heart attack, and high blood pressure.<sup>49</sup> Other techniques of meditation, such as yoga, Hare Krishna, Sufi, and Arica take much time and effort to master.<sup>50</sup> These techniques also bring with them certain religious connotations.

Another meditation technique is called Clinically Standardized Meditation (CSM). This technique, developed by Dr. Patricia Carrington, falls between the Relaxation Response and Transcendental Meditation.<sup>21</sup>

**Autogenic.** Autogenic exercises are basically positive mental programming, or self-suggestion exercises where a state of relaxation is first achieved, then suggestive phrases or thoughts are repeated to oneself. It was first developed by J.H. Schultz, a German psychiatrist, in 1932. He developed the six standard autogenic exercises used today.<sup>22</sup> Autogenic exercises have proven successful in helping headaches, gastrointestinal and cardiac problems, insomnia, phobias, and anxiety.<sup>23</sup> Autogenic training exercises are designed to shift the person to a less stressful state.<sup>24</sup>

**Biofeedback.** "Biofeedback is the monitoring of signals from the body, such as muscle tension and hand warmth, and the feeding of that information back through the use of sophisticated machines to the individuals so they can get external information as to exactly what is happening in their bodies. In biofeedback the individual learns to control body responses through the aid of equipment, usually being sensitive and electronic. The equipment monitors the body's responses, such as pulse rate, secretions of glands, oxygen consumption, and temperature, and provides feedback to the individual in some form, such as moving a needle, sounding beeps, or displaying light flashes. The individual, by learning to control the feedback, learns to control the body's function being monitored. Once the individual learns this control with the aid of monitoring equipment, then he will be able to continue this control without the aid of the equipment. Some of the



areas in which this technique has proven helpful are migraine headaches, tension headaches, nervous muscle disorders, anxiety, phobias, insomnia, and high blood pressure.<sup>66</sup> Disadvantages are that usually only one physiological function can be controlled at a time. It usually involves a great deal of costly equipment, and requires close monitoring of physiological changes.<sup>67</sup> It also may require hours of training. Although there are some disadvantages, it has greatly helped hypertense people to lower their blood pressure, the pain of headache sufferers, and a variety of other stress-induced ailments.<sup>68</sup>

**Psychotherapy.** Psychotherapy varies widely. There are two basic methods. First, classical Freudian analysis that consists of a number of sessions over a period of time. This is usually expensive and the cure rate is low. Secondly, there is behavioral therapy, consisting of venting or talking in the presence of a therapist. This can make you feel better almost at once. The therapist does not have to be a psychiatrist, but a trained therapist. Behavior therapy also is very costly. Psychotherapy works better with some people than others.<sup>69</sup> Psychotherapy can be in the form of 10-15 counseling sessions, sometimes fewer, and often helps the individual during a particularly stressful situation. It may bring about almost immediate results.<sup>70</sup>

**Hypnosis.** Hypnosis is artificially induced altered state of consciousness characterized by increased receptiveness to suggestions.<sup>71</sup> It is used for surgical anesthesia and dentistry.<sup>72</sup>

**Drugs.** Drugs are generally regarded as not being positive. Many or most of them have unpleasant side effects and may be addicting. Drugs seldom solve anything, they only succeed in obscuring the

problem.<sup>42</sup>

Many coping techniques exist today which are widely different in their approach and application. Although techniques vary, there are commonly accepted guidelines for training with them:

1. Coping devices are complex and need to be flexible...coping devices used successfully in one situation may be quite unsuccessful in another or even in the same situation at another time.

2. Consistent with a call for flexibility is the need for any training technique to be sensitive to individual differences, cultural differences and situational differences.

3. Successful coping processes involve strategies and devices for dealing with challenges from the environment: incorporating potentially threatening events into cognitive plans tends to reduce anxiety and lead to more adaptive coping responses; and information that stimulates mental rehearsal or the work of worrying may short circuit the experience of stress or reduce its aftereffects.

4. Actual exposure, during training, to less threatening stressful events has a beneficial effect and can be employed in training.<sup>43</sup>

## CHAPTER IV

### ENDNOTES

1. Culligan, Matthew and Keith Sedlacek. How to Avoid Stress Before it Kills You. New York: Gramercy Publishing Company, 1976, p. 28.
2. Ibid., pp. 28-30.
3. Selye, Hans. Stress Without Distress. New York: SIGNET Books, 1973, p. 14.
4. Ibid., p. 149.
5. Ibid., pp. 15-16.
6. Ibid., p. 16.
7. Ibid., p. 17.
8. Ibid., p. 151.
9. Ibid., p. 18.
10. Pelletier, Kenneth R. Healthy People in Unhealthy Places: Stress and Fitness at Work. New York: Delacorte Press, 1984, p. 39.
11. Selye, Hans. Stress Without Distress, p. 20.
12. Ibid., p. 27.
13. Ibid., pp. 28-29.
14. Menninger, William C., Psychiatry in a Troubled World: Yesterday's War and Today's Challenge. New York: The Macmillan Company, 1948, p. 139.
15. DeWitt, Tony. "The Future Battlefield." Proceedings: User's Workshop on Combat Stress (5th). Fort Sam Houston, TX: Army Health Care Studies and Clinical Investigation Activity, July 1986.
16. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. Washington D.C.: U.S. Government Printing Office, 29 August 1986, p. 25.
17. Ibid.

18. Headquarters, Department of the Army. Army Regulation 40-216. Neuropsychiatry and Mental Health. Washington D.C., 10 August 1984.
19. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. 29 August 1986, p. 33-34.
20. Headquarters, Department of the Army. Field Circular 16-51. Battle Fatigue Ministry. Fort Monmouth, New Jersey, September 1986, p. 11.
21. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. 29 August 1986, p. 27-29.
22. Headquarters, Department of the Army. Field Manual 22-9. Soldier Performance in Continuous Operations. Washington D.C.: U.S. Government Printing Office, 8 December 1983, pp. 2-10 to 2-11.
23. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. Unpublished draft. Washington D.C.: U.S. Government Printing Office, 8 December 1983.
24. Ibid.
25. Ibid.
26. Hilgard, Ernest R., Richard C Atkinson, and Rita L. Atkison. Introduction to Psychology. New York: Harcourt Brace Jovanovich, Inc., 1971, p. 459.
27. Grinker, Roy R. and John P. Spiegel. Men Under Stress. Philadelphia: Blakiston Company, 1945, p. 130.
28. Kellett, Anthony. Combat Motivation The Behavior of Soldiers in Battle. Boston, MA.: Kluwer-Nighoff Publishing, 1982, p. 286.
29. Grinker and Spiegel, Men Under Stress, p. 130.
30. Ibid., p. 132.
31. Stouffer, Samuel A. et al. Studies In Social Psychology In World War II. The American Soldier: Combat and Its Aftermath. Vol II. Princeton, New Jersey: Princeton University Press, 1949, pp. 174-175.
32. Kellett. Combat Motivation The Behavior of Soldiers in Battle. op. 286-289.
33. Stouffer, Studies In Social Psychology In World War II. The

- American Soldier: Combat and Its Aftermath, Vol II, p. 190.
34. Richardson, F.M. Fighting Spirit: A Study of Psychological Factors in War. London: Leo Cooper, 1978, p. 43.
  35. Stouffer, Studies In Social Psychology In World War II, The American Soldier: Combat and Its Aftermath, Vol II, p. 193.
  36. Operations Research Office. Human Factors in Military Operations: Some Applications of the Social Sciences to Operations Research (ORO-T-259). Chevy Chase, Maryland: John Hopkins University, September 1954, p. 180.
  37. Kellett, Combat Motivation The Behavior of Soldiers in Battle, p. 286.
  38. Operations Research Office. Human Factors in Military Operations: Some Applications of the Social Sciences to Operations Research (ORO-T-259), p. 180.
  39. Stouffer, Studies In Social Psychology In World War II, The American Soldier: Combat and Its Aftermath, Vol II, pp. 174-175.
  40. Ibid., p. 172.
  41. Benson, Herbert. The Relaxation Response. New York: William Morrow and Company, Inc., 1975, p. 72.
  42. Winter, Richard E., ed. Coping with Executive Stress. New York: McGraw-Hill Book Company, 1983, p. 191.
  43. Ibid., p. 188.
  44. McQuade, Walter and Ann Aikman. Stress: What Is It, What It Can Do to Your Health, How to Fight Back. New York: E.P. Dutton & Co., Inc., 1974, p. 131.
  45. Winter, Richard E., ed. Coping with Executive Stress, p. 185.
  46. Ibid., pp. 202-207.
  47. Kriegel, Robert J. and Marilyn Harris Kriegel. The C Zone: Peak Performance Under Pressure. Garden City, New York: Anchor Press, 1984, p. xv.
  48. Winter, Richard E., ed. Coping with Executive Stress, p. 193-195.
  49. Benson, Herbert. The Relaxation Response.
  50. McQuade, Walter and Ann Aikman. Stress: What Is It, What It Can Do to Your Health, How to Fight Back, pp. 176-183.

51. Winter, Richard E., ed. Coping with Executive Stress, p. 198.
52. Shealy, C. Norman. 90 Days to Self-health. New York: The Dial Press, 1977. p. 40.
53. Ibid., p. 43.
54. Benson, Herbert. The Relaxation Response, p. 69.
55. Winter, Richard E., ed. Coping with Executive Stress, p. 199-202.
56. Benson, Herbert. The Relaxation Response, p. 57.
57. McQuade, Walter and Ann Aikman. Stress: What Is It, What It Can Do to Your Health, How to Fight Back, pp. 183-188.
58. Ibid., pp. 152-162.
59. Winter, Richard E., ed. Coping with Executive Stress, p. 208-209.
60. Benson, Herbert. The Relaxation Response, p. 72.
61. McQuade, Walter and Ann Aikman. Stress: What Is It, What It Can Do to Your Health, How to Fight Back, pp. 189-190.
62. Ibid., pp. 162-171.
63. Sarason, Irwin G., and Charles D. Spielberger, eds. Stress and Anxiety, Vol. 2. Washington, D.C.: Hemisphere Publishing Corporation, 1975, p. 348.

## CHAPTER V

### DISCUSSION

#### Introduction

In order to determine how the individual soldier can control his responses to battlefield stress, this chapter will compare individual coping techniques against criteria for their applicability on the battlefield. The techniques to be compared are those found during the research of historical examples, U.S. Army doctrine, and the civilian sector. The following set of criteria is used:

1. The technique does not require specially trained personnel to administer or oversee its application.

2. The technique requires an acceptable level of formal training in order for an individual to learn to use it. Acceptable formal training is that which a battalion or company can conduct within the resource limitations of the unit.

3. The technique requires no resources other than those normally available to the individual soldier on the battlefield.

4. The technique is within the capability of the individual soldier to perform while on the battlefield.

5. The technique is not significantly hindered by other factors on the battlefield that would render it ineffective.

A summary of the individual coping techniques revealed during the research is shown below in Table 8. Following analysis of the coping techniques, they will be grouped according to their applicability

on the battlefield before, during, and after combat actions.

Table 8. Summary of Individual Coping Techniques.

Professional Assistance

- Biofeedback
- Drugs
- Hypnosis
- Psychotherapy

Personal Skills

- Environmental Manipulation
- Performance Support Equipment
- Controlled Use of Stimulants
- Nutrition
- Pace Yourself
- Interpersonal Relations
  - Communication (ventilation)
  - Being assertive

Physiological Exercises

- Behavior Modification
- Breathing Exercises
- Meditation
- Relaxation Exercises
- Physical Exercises
- Progressive Relaxation Exercises

Cognitive Control

- Attention Diversion (distraction)
- Autogenic (self-suggestion/self-talk)
- Concentration (on the task at hand)
- Fatalism
- Imagery
- Personal Invulnerability
- Positive Thinking
  - Positive Affirmations
  - Positive Reframing
- Religion (Prayer)
- Superstition

Training

- Education
- Inoculation
- Overtraining



### Professional Assistance

The first category of coping techniques is professional assistance. This category includes biofeedback, drugs, hypnosis, and psychotherapy. Although these four coping techniques are each distinctly different in dealing with stress, they do have several things in common.

Each technique in this group requires, in varying degrees, professionals or other specially trained personnel to administer to the individual, either to train the individual or to provide supervision during actual execution of the technique. Biofeedback requires assistance from a doctor or trained assistant in order to provide proper monitoring of the technique. The use of drugs to assist the individual deal with stress requires expert medical advice, since those used are controlled by prescription. Hypnosis requires a trained specialist in order to perform the technique. And psychotherapy requires a psychiatrist, psychologist, or trained therapist. Because all of these coping techniques require, to some degree, assistance from specially trained personnel, none of them meet the first criteria for battlefield applicability.

In addition, hypnosis, psychotherapy, and biofeedback all require a varying number of sessions before they begin to produce results. Drugs may very well interfere with the performance of the soldier on the battlefield due to unwanted side effects such as drug dependency.

Although the coping techniques of biofeedback, drugs, hypnosis, and psychotherapy are not applicable by the individual soldier when

coping with stress on the battlefield, they are applicable in the treatment of battle fatigued soldiers in facilities away from the front lines. There, they can receive the attention and skilled assistance that these coping techniques require.

### Personal Skills

Personal skills consist of two basic coping techniques, manipulation of the environment, and interpersonal relations. The soldier can manipulate, or control, his environment only to a certain degree on the battlefield. Among the things he is capable of doing are to eat and sleep the best he can, control his use of stimulants, maintain a high state of personal hygiene, pace himself during fatiguing duty, and use performance support equipment to aid him on the battlefield. Interpersonal relations consist of establishing bonds of trust and confidence that build cohesion, communicating (or "venting") thoughts and feelings, and learning to give and receive orders. These relations are essentially developing and using social support systems to share problems and solutions.

These personal skills do not require specially trained personnel to supervise or oversee the soldier. No formal training is required. In fact, the Army regularly makes use of and instructs these techniques to soldiers. On the battlefield the soldier does not have as much control over his environment as someone in the civilian community. On the battlefield the soldier's ability to manipulate his environment varies widely. It seems as though the closer to the forward line of troops a soldier is, the less he is able to manipulate his environment.

But regardless of where he is located there are things which he can do. Environmental manipulation is within the ability and capability of each soldier, although it may vary widely depending upon battlefield conditions.

Personal relations are very important in combat. The one limiting factor on this technique is time. In World War II, an individual replacement system was used. When a unit received replacements, they were not able to become familiar with the men around them. "...the individual arrived at a unit knowing nothing about the men with whom he would fight, sometimes on the next day. The rest of the company would know nothing about him, his faults, or his qualities."<sup>1</sup> This was due to the relatively short time a replacement had with his new unit before he had to fight the enemy. On many occasions, a replacement fought and died in a unit, and no one knew his name.<sup>2</sup> This system placed a high degree of stress on the replacement, since he often had to arrive in a new unit and fight before he had developed a social support system.

The soldier himself is capable of establishing and developing social support systems within his section, platoon, company, or unit. But his ability to do this is limited by the time available.

#### Physiological Exercises

Physiological exercises include behavior modification, breathing exercises, meditation, relaxation exercises, physical exercises, and progressive relaxation exercises. None of these techniques require specially trained personnel. Some bring about almost immediate results

while others require some practice and time to be most effective. These techniques do not require an excessive amount of formal training and are within the individual soldier's resources and capabilities to perform on the battlefield.

Breathing, relaxation, and progressive relaxation exercises all bring on a calming effect to the body which reduces the harmful effects of distress. While these techniques are helpful, they must not be used to such an extent that the individual loses the positive effects of eustress from the fight or flight response.

Relaxation techniques are flexible with the conditions on the battlefield. They can be used almost anywhere, anytime. They only require a relatively quiet place where the soldier will not be disturbed for a few minutes.

Behavior modification is best carried out with the aid of a trained counselor. It requires a period of weeks or months to be fully effective, and is not easily adaptable to the soldier on the battlefield. In behavior modification close monitoring of behavior patterns is required.

Behavior modification is a proven stress coping technique currently used in the military. But, it is not applicable for individual use in combat. Behavior modification basically consists of recognition of certain behavior patterns, self-evaluation, and modifying inappropriate behavior. Certain aspects of behavior modification are adaptable for use on the battlefield in coping with stress. These aspects are a combination of other stress coping techniques, such as environmental control, positive thinking, and physical exercises. These

techniques, and how they apply to the battlefield, are discussed in other portions of this chapter.

### Cognitive Control

Cognitive control consists of the following individual coping techniques:

- Attention Diversion (distraction)
- Autogenic (self-suggestion/self-talk)
- Concentration
- Fatalism
- Imagery
- Personal Invulnerability
- Positive Thinking
  - Positive Affirmations
  - Positive Reframing
- Religion (Prayer)
- Superstition

Three of the techniques listed, although used throughout history, are not effective coping techniques. Instead they are "...defenses against anxiety...distorted adaptations of effective ways of coping with conflicts..."<sup>25</sup> These techniques are fatalism, personal invulnerability, and superstition.

Although these techniques meet some aspects of the evaluation criteria, they clearly do not meet the last one. All three of these techniques are hindered by certain factors on the battlefield. The soldier who adopts a fatalistic attitude is convinced that he has absolutely no control over whether or not he will be killed or seriously injured on the next mission, therefore there is no sense in worrying about it. Fatalism tends to occur less often if the soldier has something to look forward to after the end of the conflict, such as a wife and family, or a girl friend. This belief in fatalism begins to fade the more the soldier realizes that he is closer to departing the

combat area to return home.

Personal invulnerability is just the opposite. The soldier believes that no matter what happens to others, nothing will happen to him. The soldier progressively loses this feeling, however, when he sees fellow soldiers die or become injured, or when he becomes injured or has a close call. Once exposed to this level of reality, the soldier's feelings of personal invulnerability soon depart.

Two other coping techniques are concentration and distraction. In concentration, the soldier focuses on the task at hand, limiting his thoughts to the present. In distraction, the soldier performs any type of work to distract himself from thoughts which often produce anxiety. Both of these techniques are common to everyday living as well as the battlefield. It may be an action as simple as recleaning his weapon, or making further improvements to a defensive position. Such acts keep the soldier moving and deter anxiety from building up. Concentration and distraction are effective in controlling anxiety, especially during idle or slow time periods on the battlefield.

Autogenics consist of self-suggestion or self-talk, in which the individual relaxes and becomes receptive to a positive thought or phrase which he repeats. This is an effective technique in coping with stress. It is related in part to relaxation exercises and positive thinking. It requires no specially trained personnel to supervise, nor an exceptional amount of formal training. And it can be taught easily by the chain of command. This technique is fully within the ability of the individual to perform on the battlefield. The only limiting factor is that the environment must allow the individual to relax for a short period. He

first attains a state of relaxation, then repeats his self-suggestion.

Positive thinking differs from the technique of autogenics or self-suggestion in a couple ways. In autogenics, it is necessary for the individual to be in a state of relative relaxation which allows the body and mind to be more receptive to the suggestion. In positive thinking the state of relaxation is not used. The soldier simply repeats or thinks to himself positive thoughts about his duties, or about a loved one, for example. Positive reframing is backward looking. When reframing, the soldier thinks about the positive side of things which have already occurred. Positive affirmations are present or forward looking. When affirming, the soldier concentrates on what is positive and downplays what is negative.

Positive thinking requires no specially trained personnel, and is within the abilities and capabilities of all soldiers. This technique is flexible and can be used in almost all circumstances, under all conditions. It does, however, require that an individual have a belief that good things have happened or will happen to him.

Imagery is a cognitive form of relaxation. With imagery, the soldier visualizes pleasant images in order to mentally relax and control anxiety. This technique can be learned rather quickly and requires no specially trained personnel. It requires no resources other than minutes in which to mentally relax and deliberately visualize pleasant images controlling mental tension and anxiety. It is within everyone's ability and capability to perform. Restrictions on the battlefield are limited to those times which require full mental alertness.

Prayer is the last coping technique under cognitive control. This technique has proved helpful to numbers of soldiers in combat throughout history. It requires no specially trained personnel to supervise or assist the soldier, but instead depends on his own religious beliefs. Soldiers can easily find spiritual assistance before and after combat actions through the chaplain and his assistant. The soldier can reaffirm his beliefs or pray at almost any time on the battlefield. Many times soldiers who have no religious beliefs prior to battle find relief from stress through prayer. Praying has been one of the most common methods used by soldiers to help themselves through tough situations.

#### Training

Training consists of education, overtraining, and inoculation. All of these methods are effective in coping with stress, and are applicable on the battlefield. Overtraining and inoculation have been used in the past, effectively producing results in preventing performance deterioration due to stress. Educating soldiers on stress in military operations has only recently begun, with the publication of field manuals in 1983. Stress education is continuing to gain momentum as the Army emphasizes personal stress management programs to commanders and leaders, and develop training support packages for battalion and company level training programs.

None of these techniques require specially trained personnel beyond the normal chain of command. The training support packages provide lesson plans and guidance to leaders throughout the chain of



command to assist them in educating soldiers.

None of the subjects concerning stress are particularly difficult to comprehend. They require only informal training at small unit level. The best instructor of a soldier is his normal chain of command. This is the same leader whom he will fight beside in combat.

Educating a soldier is the first step. He must be taught about stress, the signs and effects of stress, how to cope with it, and how to treat distress in others. This must be followed by a series of practical exercises which allow the soldier to practice what he has learned under increasing stressful situations. This is termed inoculation. Once the soldier is educated in this fashion, he has a powerful tool that will assist him when under stress on the battlefield.

Overtraining has been well established as an effective means of training for combat for a long time. By learning a particular task to the n<sup>th</sup> degree, it will be second nature in combat.

Education is a very effective coping technique. It is an essential ingredient to all stress management programs.

#### Applicability of Coping Techniques on the Battlefield

The following table reflects the applicability of individual coping techniques on the battlefield. Only the techniques which fully meet the criteria for applicability are listed. Each technique is rated across the time frame of before, during, and after combat. Before combat refers to the period of time used in preparation leading up to engagement with the enemy. During combat refers to the time when the individual is directly engaged in an operation or mission against the

enemy. After combat refers to the time following an engagement with the enemy.

Techniques are evaluated during each time frame as: slightly appropriate, moderately appropriate, or highly appropriate for dealing with stress. There is no historical data on which to substantiate whether a technique is slightly, moderately, or highly appropriate. Therefore, based on research of each technique subjective judgments were made.

Table 9. Applicability of Coping Techniques on the Battlefield.

Coping Technique	Before Combat	During Combat	After Combat
Personal Skills			
Environmental Manipulation	H	S	H
Interpersonal Relations	H	S	H
Physiological Exercises			
Breathing Exercises	H	M	H
Meditation	H	S	H
Relaxation Exercises	H	S	H
Physical Exercises	H	S	S
Progressive Relaxation Exercises	H	S	H
Cognitive Control			
Attention Diversion	H	M	H
Autogenic	H	S	H
Concentration	H	H	H
Imagery	H	S	H
Positive Thinking	H	M	H
Religion (Prayer)	H	M	H
Training			
Education	H	S	S
Inoculation	H	M	S
Overtraining	H	S	S

Legend: S - Slightly Appropriate  
M - Moderately Appropriate  
H - Highly Appropriate

### Summary

In this chapter coping techniques were compared against a set of criteria to determine their applicability for use before combat, during combat, and after combat. Techniques considered applicable are listed in Table 9.

Of the techniques found to be applicable on the battlefield, all are considered highly appropriate before combat, and most are considered highly appropriate after combat. During combat most techniques are only slightly appropriate. A breakdown of the techniques applicable on the battlefield follows:

Table 10. Number of Techniques Applicable on the Battlefield.

<u>Applicability of Coping Technique</u>	<u>Before Combat</u>	<u>During Combat</u>	<u>After Combat</u>
Slightly Appropriate	0	10	4
Moderately Appropriate	0	5	0
Highly Appropriate	16	1	12

The best time to prepare for distress is before combat since there is available time. During combat the soldier is preoccupied with carrying-out his duties and must maintain his resistance to stress. After combat is the time to recover from stress, returning to a normal level, and preparing for future engagements.

The next chapter will provide conclusions of the study.

## CHAPTER V

### ENDNOTES

1. Dunn, Walter S., Jr. "People Policies in Combat." Parameters. XIV (Spring, 1984), p. 54.
2. Ibid.
3. Hilgard, Ernest R., Richard C Atkinson, and Rita L. Atkison. Introduction to Psychology. New York: Harcourt Brace Jovanovich, Inc., 1971, p. 459.

## CHAPTER VI

### CONCLUSIONS

This chapter presents conclusions of the study. But before the conclusions are presented, it is appropriate to begin with a review of the problem definition.

#### Problem Definition

The purpose of this study was to determine how the individual soldier can control his responses to battlefield stress, in order to maximize his performance.

Questions were raised in three areas. First, what has the military done in the past? Were soldiers trained to cope with battlefield stress? How were they trained, and how effective was the training? Second, what does current U.S. Army doctrine say? Does doctrine prescribe coping techniques for the individual? And third, are there other coping techniques that will aid the soldier facing battlefield stress? Does the civilian sector have anything to offer? If so, what are these techniques? Are they applicable to the battlefield, coming from the civilian sector? When and how may they be used-- before, during, or after combat?

### Conclusions

History tells us that commanders and leaders have done very little toward assisting soldiers to cope with battlefield stress. There were basically two things done for soldiers with the thought in mind of combatting fear. First, "infiltration courses" were created for soldiers to go through.<sup>1</sup> These courses required the soldier to cross a simulated battlefield under stressful conditions. Live ammunition and explosives were used in combination with other common events, such as limited visibility of darkness or smoke. This was a form of inoculation training. The danger of using this technique, as the British experienced in World War II, is that the soldier may develop a "phobic reaction" to the explosions and noise on the battlefield.<sup>2</sup> It is important for the level of stress to gradually increase in order to prevent this from occurring.

The second was to encourage soldiers to adopt a permissive attitude toward fear.<sup>3</sup> This was the substance of the War Department Circular 48, dated February 1944. It was thought that anxiety would lessen when soldiers recognized that everyone experiences fear.

Soldiers have not been trained to cope with stress. In fact, many leaders thought that battlefield stress reactions were a sign of cowardice or weakness in the individual soldier. During World War II these reactions were commonly termed "war neurosis."<sup>4</sup> Patients received stigmas, such as "quitter," "eight-ball," "gold brick," or "yellow."<sup>5</sup> The most famous example of this was the slapping incident involving General Patton. He demonstrated the attitude that neuropsychiatric casualties were cowards who displayed weakness of character.<sup>6</sup> This

attitude was very common, and is only slowly changing today. Because commanders failed to understand the nature of stress, soldiers were not trained to cope with it.

The focus of battlefield stress throughout history has been centered around neuropsychiatric casualty rates, treatment procedures, and return-to-duty rates of neuropsychiatric casualties. Very little information is available on coping techniques for the individual soldier. The nature of warfare makes the study of this subject very difficult at best, and has not been undertaken in the past.

Prayer has always been prevalent in combat. But, historical data gathered on prayer is insufficient to determine whether it was an effective coping technique. Even so, "...men regarded it as a very important source of support."

"Fatalism", "personal invulnerability", and "superstition" also have been prevalent in combat. Although some psychologists believe these techniques are effective ways of coping with stress,<sup>6</sup> they are ineffective. Through near-miss experiences the soldier quickly becomes aware of his potential vulnerability.<sup>7</sup>

U.S. Army doctrine on stress in military operations is insufficient. It recognizes almost all of the coping techniques which this study determined to be applicable on the battlefield. But, the subsequent discussion in doctrine lacks sufficient detail to be of practical use to commanders and leaders, the ones who are responsible for training soldiers. Doctrine only names coping techniques, leaving out details of how to employ them, why they are effective, how to train soldiers to use them, or when to use them.

The Unit Ministry Team has recently been added to Army doctrine. The UMT is a military support group for soldiers, leaders, and units, that administers pastoral care and religious support in both peacetime and combat.<sup>10</sup> It fulfills a gap by providing spiritual assistance to soldiers under stress.

It is very important to educate soldiers about stress and train them to cope with it on the battlefield. Stress can not be eliminated, and battle fatigue is inevitable. Soldiers must understand that stress casualties are only temporary, and that the number of stress casualties will increase with intensity of the battle and duration of continuous combat.<sup>11</sup> Soldiers must also learn coping techniques and principles of stress casualty treatment; proximity, immediacy, and expectancy (PIE).

"Coping techniques must be learned and practiced. In combat it is too late to practice coping with stress - just as it is too late to practice firing a weapon. Each soldier must know how to cope long before combat, or he will have difficulty coping with combat stress."<sup>12</sup>

It is important to begin training soldiers to prepare for stress now. Stress casualty rates of the past and anticipated future casualty rates make it imperative that we apply these techniques to stress on the battlefield.

Coping techniques cannot be placed in a prioritized list according to their effectiveness. Different techniques work best for different people. This is one of the important reasons for training. The soldier must learn which techniques work best for him. This must be carried out under stressful conditions simulating those he will experience in combat.



In the civilian sector there exists a broad spectrum of coping techniques available for individuals to use. However, this spectrum is significantly narrowed when applying the techniques to the battlefield. This occurs because of the differences between the two environments.

One difference is the duration of stress, the period that an individual is subject to continuous stress. Everyone succumbs to stress if the level of stress is high enough and is maintained over an indefinite time period.<sup>13</sup> In World War II, it was recognized that "...for each aggregate 10 days of frontline combat, from 3 to 10 percent of the men who still remained on duty broke down...at these rates, the breaking point of the average soldier was estimated to have been in the range of 80 to 90 aggregate days of combat."<sup>14</sup>

"When all is said and done, no motivational structure was adequate to sustain the average soldier in stress of combat indefinitely. It became a psychiatric axiom that every man has his breaking point."<sup>15</sup>

Very few jobs in the civilian sector can compare to a stress level equal to continuous days of combat.

Another difference is the intensity of battle. Actions of the Israeli Defense Force in Lebanon show that it is not just the duration, but also the intensity of the battle. Intensity is measured by the number of physical casualties.<sup>16</sup> Few civilian jobs, if any, compare to the lethal intensity of the battlefield, not even potentially life-threatening jobs such as policemen or firemen.

The ability of the individual and his leader to control and manipulate the environment is a third difference. A soldier cannot quit his job and seek another elsewhere, away from combat. A soldier rarely

has any free time away from the battlefield, while a civilian goes home at the end of each day.

In the civilian sector the individual can rely more heavily upon social support systems for assistance. In war the soldier is away from his wife and family. He has to rely more upon personal relationships with peers, superiors, and subordinates.

The following table provides a summary of information on individual coping techniques.

Table 11. Coping Technique Conclusions.

Coping Technique	Noted in Historical Examples	Noted in Army Doctrine	Noted in Civil Sector	Applicability in Combat		
				B	D	A
Professional Assistance						
Biofeedback			X			
Drugs			X			
Hypnosis			X			
Psychotherapy			X			
Personal Skills						
Environmental Manipulation	X	X	X	H	S	H
Interpersonal Relations		X	X	H	S	H
Physiological Exercises						
Behavior Modification			X			
Breathing Exercises		X	X	H	M	H
Meditation		X	X	H	S	H
Relaxation Exercises		X	X	H	S	H
Physical Exercises		X	X	H	S	S
Progressive Relaxation			X	H	S	H
Cognitive Control						
Attention Diversion			X	H	M	H
Autogenic		X	X	H	S	H
Concentration			X	H	H	H
Fatalism	X					
Imagery		X	X	H	S	H
Personal Invulnerability	X					
Positive Thinking			X	H	M	H
Religion (Prayer)	X		X	H	M	H
Superstition	X					
Training						
Education		X	X	H	S	S
Inoculation		X	X	H	M	S
Overtraining		X	X	H	S	S

Legend:   B - Before Combat           S - Slightly Appropriate  
           D - During Combat       M - Moderately Appropriate  
           A - After Combat        H - Highly Appropriate  
           X - Applicable

### Other Observations

Individual coping techniques must not be viewed in isolation, but as an integral part of an effective stress management program. Coping techniques are only one component of a program. Other components are commanders and small unit leaders, medical personnel, Unit Ministry Teams, an understanding about stress, its symptoms, and treatment principles. There are six basic steps common to all stress management programs:

1. Recognition. Learn to recognize and anticipate stressors and situations.
2. Hardiness. Develop an attitude of hardiness through commitment, acceptance of challenge, and the awareness that stress can be controlled.
3. Practice. Practice any technique that works.
4. Generalize. Create a continued life style of physical exercise, proper diet, personal and family life fulfillment, and career fulfillment.
5. Action plan and audit. Perform self-imposed periodic status checks.
6. Extension. Develop the means to create relationships and environments which are supportive.<sup>17</sup>

### Significance of the Study

There is much discussion throughout the Army regarding stress management, usually in the context of individual stress management programs for senior leaders. The same principles and coping techniques

taught to senior leaders are applicable to all levels. Based on anticipated future casualty rates of at least 1 to 3 WIA<sup>14</sup>, we can expect a certain amount of manpower losses due to stress on the battlefield. In order to combat these losses, knowledge must be passed on, all the way down through and including the individual soldier.

"It is a well known fact that we cannot afford to waste manpower in any future war; therefore, it behooves us to give serious study to the early formulation and adoption of Army-wide policies aimed at establishing these conservative measures."<sup>15</sup>

This study has examined the means by which the individual soldier can cope with stress on the battlefield.

#### Focus for Future Research

This study has raised additional issues and areas that lend themselves to additional in-depth research. These areas are too broad or far a field to be included in this study.

1. Which coping techniques are effective in assisting the individual soldier cope with stress on the battlefield? There is no historical data to support this, therefore testing and evaluation must be conducted on real or simulated battlefields where stress exists.
2. What changes should be made in U.S. Army doctrine of stress in military operations?

## CHAPTER VI

### ENDNOTES

1. Kellett, Anthony. Combat Motivation The Behavior of Soldiers in Battle. Boston, MA.: Kluwer-Nighoff Publishing, 1982, pg. 83.
2. Ibid., pg. 84.
3. Ibid., pg. 281.
4. Glass, Albert J. and Robert J. Bernucci, eds. Medical Department, United States Army: Neuropsychiatry in World War II. Volume I. Zone of Interior. Washington, D.C.: Office of the Surgeon General, 1946, pg. 990.
5. Menninger, William C., Psychiatry in a Troubled World: Yesterday's War and Today's Challenge. New York: The Macmillan Company, 1948, pg. 20.
6. Glass, Albert J. and Robert J. Bernucci, eds. Medical Department, United States Army: Neuropsychiatry in World War II. Volume I. Zone of Interior, pg. 990.
7. Stouffer, Samuel A. et al. Studies In Social Psychology In World War II. The American Soldier: Combat and Its Aftermath. Vol II. Princeton, New Jersey: Princeton University Press, 1949, pg. 173.
8. Kellett, Anthony. Combat Motivation The Behavior of Soldiers in Battle, pg. 286.
9. Coelho, George V., David A. Hamburg, and John E. Adams, eds. Coping and Adaption. New York: Basic Books, Inc., 1974, pp. 161-164.
10. Headquarters, Department of the Army. Field Circular 16-51. Battle Fatigue Ministry. Fort Monmouth, New Jersey, September 1986.
11. Flora, Dale B. "Battlefield Stress: Causes, Cures and Countermeasures". Unpublished MMAS thesis. Fort Leavenworth, Kansas: Command and General Staff College, 1985, pg. 115.
12. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. Washington D.C.: U.S. Government Printing Office, 8 December 1983, pg. 37.
13. Stouffer, Samuel A. et al. Studies In Social Psychology In World

War II. The American Soldier: Combat and Its Aftermath. Vol II.  
pg. 191.

14. Glass, Albert J. and Robert J. Bernucci, eds. Medical Department, United States Army: Neuropsychiatry in World War II. Volume I. Zone of Interior. pg. 405.
15. Stouffer, Samuel A. et al. Studies In Social Psychology In World War II. The American Soldier: Combat and Its Aftermath. Vol II. pg. 191.
16. Belenky, Gregory Lucas, Shabtai Noy, and Zahava Solomon. "Battle Stress: The Israeli Experience." Military Review. LXV (July, 1985), pg. 30.
17. Pelletier, Kenneth R. Healthy People in Unhealthy Places: Stress and Fitness at Work. New York: Delacorte Press, 1984, pp. 81-82.
18. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations, 8 December 1983, pg. 20.
19. Williams, U.P. "They May Not Die - But They Wither Fast." Military Review. XXX (July, 1950), p. 23.

**APPENDIX A**  
**GLOSSARY OF ABBREVIATIONS AND ACRONYMS**

**AMEDD - Army Medical Department**

**AR - Army Regulation**

**BF - Battle Fatigue**

**BFC - Battle Fatigue Casualty**

**BSR - Battle Stress Reaction**

**FC - Field Circular**

**FM - Field Manual**

**GAS - General Adaptation Syndrome**

**ETA - Graphic Training Aid**

**IDF - Israeli Defense Force**

**KIA - Killed in Action**

**NP - Neuropsychiatry/neuropsychiatric**

**PIE - Proximity, Immediacy, Expectancy**

**TSP - Training Support Package**

**UMT - Unit Ministry Team**

**WIA - Wounded in Action**



APPENDIX B  
DEFINITION OF TERMS

Battle fatigue (or combat fatigue). A preferred term rather than battle shock, combat exhaustion, combat reactions or transient battle reaction. This term applies to negative combat stress reactions with uncomfortable feelings and performance degradation. The term itself does not imply a mental disorder. There are several degrees of battle fatigue.

a. Mild. Performance degradation of 5 to 40 percent. This level of fatigue can be treated in the soldier's unit. Effectiveness is usually restored in a short period of time (hours to days).

b. Moderate. Performance degradation of 40 to 80 percent. Evaluation is needed by medical and mental health personnel. The soldier can receive rest and supportive care by medical unit personnel and usually return to duty within a short period of time.

c. Severe. Disabled 80 to 100 percent and too disruptive to be managed in the soldier's unit. Severe fatigue requires specialized mental health care. The prognosis for rapid recovery can still be good.<sup>1</sup>

Battle stress casualty. An individual who can no longer perform his

normal duties due to battle fatigue, not due to physical wound, injury, or disease.

Battlefield. That area required by combat forces for the conduct of operations. Specifically, the territory forward of the Army rear area boundary.<sup>2</sup>

Battlefield stress (or combat stress). Includes all physiological and emotional stresses encountered as a direct result of the dangers and mission demands of combat.<sup>3</sup>

Combat stress reaction. A generic term for all psychophysiological reactions to the combat setting. These range from normal physiological reactions to complete functional collapse. Therefore, the response can be normal to abnormal at any given time.<sup>4</sup>

Coping technique. A method of directing problem-solving efforts used by an individual when the demands he faces are highly relevant to his welfare (that is, a situation of considerable jeopardy or promise), and when these demands tax his adaptive process.<sup>5</sup>

Distress. Harmful, unpleasant stress.<sup>6</sup>

Eustress. Helpful, pleasant stress.

Expectancy. One of the three guidelines for dealing with soldiers who

show battle fatigue - expect the soldiers to act like soldiers and return to normal duty after a sufficient but brief rest (rarely more than 2 days).<sup>7</sup>

Immediacy. One of the three guidelines for dealing with soldiers who show battle fatigue - start to help immediately. Do not let the soldiers sit idly with the symptoms; help them cope as early as possible.<sup>8</sup>

Neuropsychiatry/neuropsychiatric. Primarily the mobilization term used since it clearly includes the organic (physical) as well as the functional (mental) types of disorder. It applies to the functions of neurologists and psychiatrists and other mental health professionals (as contrasted to surgery or medicine) who conserve manpower and treat and document battle and nonbattle casualties and perform such needed medical services in various AMEDD [Army Medical Department] facilities and organizations.<sup>9</sup>

Proximity (closeness). One of the three guidelines for dealing with soldiers who show battle fatigue - help soldiers with stress symptoms cope within their own squad, platoon, company, or battalion area, in that order. The farther they are from the primary group, the more difficult it is to help them return to normal duty. Proximity also means keeping soldiers as close to the action as possible to reinforce their identity as soldiers, not casualties.<sup>10</sup>

**Stress.** Any nonspecific response of the body to any demand, whether it is caused by, or results in, pleasant or unpleasant conditions, it cannot and should not be avoided.<sup>11</sup>

**Stressor.** That which produces stress.<sup>12</sup>

## APPENDIX B

### ENDNOTES

1. Headquarters, Department of the Army. Army Regulation 40-216. Neuropsychiatry and Mental Health. Washington D.C.: U.S. Government Printing Office, 10 August 1984, p. 8.
2. Headquarters, Department of the Army. Field Manual 101-5-1. Operational Terms and Symbols. Washington D.C.: U.S. Government Printing Office, 21 October 1985, p. 1-16.
3. Headquarters, Department of the Army. Army Regulation 40-216. Neuropsychiatry and Mental Health, p. 8.
4. Ibid.
5. Coelho, George V., David A. Hamburg, and John E. Adams, eds. Coping and Adaption. New York: Basic Books, Inc., 1974, pp. 250-251.
6. Selye, Hans. Stress Without Distress. New York: SIGNET Books, 1975, p. 147.
7. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. Washington D.C.: U.S. Government Printing Office, 29 August 1986, p. 34.
8. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. 29 August 1986, pp. 33-34.
9. Headquarters, Department of the Army. Army Regulation 40-216. Neuropsychiatry and Mental Health, p. 8.
10. Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. 29 August 1986, p. 33.
11. Selye, Hans. The Stress of Life. New York: McGraw-Hill Book Company, 1956, pp. 63,74.
12. Ibid., p. 78.

## BIBLIOGRAPHY

### Books

- Adams, Linda and Elinor Lenz. Effectiveness Training for Women. E.T.W. New York: Wyden Books, 1979.
- Barnard, Christiaan and Peter Evans. Your Healthy Heart: The Family Guide to Staying Healthy & Living Longer. New York: McGraw-Hill Book Company, 1985.
- Bartlett, F. C. Psychology and the Soldier. Cambridge: University Press, 1927. 355.0019/B289p
- Beebe, Gilbert W. and Michael E. De Bakey. Battle Casualties: Incidence, Mortality, and Logistic Considerations. Springfield, Illinois: Charles C Thomas, 1952. 940.5475/B414b
- Benson, Herbert. The Relaxation Response. New York: William Morrow and Company, Inc., 1975.
- Bourne, Peter G. Men, Stress, and Vietnam. Boston: Little, Brown and Company, 1970.
- Brown, Barbara B. Supermind: The Ultimate Energy. New York: Harper & Row, Publishers, Inc., 1980.
- Coelho, George V., David A. Hamburg, and John E. Adams, eds. Coping and Adaption. New York: Basic Books, Inc., 1974. 155.24/C672c
- Copeland, Norman. Psychology and The Soldier. Harrisburg, Pa.: The Military Service Publishing Company, 1942. 355.0019/c782p
- Culligan, Matthew and Keith Sedlacek. How to Avoid Stress Before it Kills You. New York: Gramercy Publishing Company, 1976.
- Dollard, John. Fear in Battle. Westport, CN.: Greenwood Press, Publishers, 1977. 355.4019/D665f
- Eliot, Robert S. and Dennis L. Breo. Is It Worth Dying For? A Self-Assessment Program to Make Stress Work for You, Not Against You. New York: Bantam Books, 1984.
- Ellis, John. The Sharp End: The Fighting Man in World War II. New York: Charles Scribner's Sons, 1980. 940.54/E47s
- Freudenberger, Herbert J. and Geraldine Richelson. Burn-out: How to Beat the High Cost of Success. New York: Bantam Books, 1980.

Gabriel, Richard A. Soviet Military Psychiatry. Westport, Connecticut: Greenwood Press, Inc., 1986.

Glass, Albert J. and Robert J. Bernucci, eds. Medical Department, United States Army: Neuropsychiatry in World War II. Volume I. Zone of Interior. Washington, D.C.: Office of the Surgeon General, 1966. 940.54/U56a/Vol. I

Gmelch, Walter H. Beyond Stress to Effective Management. New York: John Wiley & Sons, Inc., 1982.

Gray, J. Glenn. The Warriors: Reflections on Men in Battle. New York: Harcourt, Brace and Company, 1959. 940.548/8779w

Grinker, Roy R. and John P. Spiegel. Men Under Stress. Philadelphia: Blakiston Company, 1945.

Hilgard, Ernest R., Richard C Atkinson, and Rita L. Atkison. Introduction to Psychology. New York: Harcourt Brace Jovanovich, Inc., 1971.

Hunt, H. Ernest. How to Win the War of Nerves. London: Rider & Company, undated. M9405/H1/G

Keegan, John. The Face of Battle. New York: Penguin Books, 1976.

Kellett, Anthony. Combat Motivation The Behavior of Soldiers in Battle. Boston, MA.: Kluwer-Nijhoff Publishing, 1982. 355.0019/K29c

Kriegel, Robert J. and Marilyn Harris Kriegel. The G Zones: Peak Performance Under Pressure. Garden City, New York: Anchor Press, 1984.

Levi, Lennart. Preventing Work Stress. Reading, Massachusetts: Addison-Wesley Publishing Company, 1981. 158.7/L664p

Little, Roger W. "Buddy Relations and Combat Performance." The New Military: Changing Patterns of Organization. Edited by Morris Janowitz. New York: Russel Sage Foundation, 1964. 355.01/J34n

Marshall, S.L.A. Men Against Fire: The Problem of Battle Command in Future War. Gloucester, Ma.: Peter Smith, 1978. 355.331/M369m

McCroskey, James C., Carl E. Larson, and Mark L. Knapp. An Introduction to Interpersonal Communication. Edglewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971. 158.2/M132i

McLean, Alan A. Work Stress. Reading, Massachusetts: Addison-Wesley Publishing Company, 1979. 158.7/M161w

McQuade, Walter and Ann Aikman. Stress: What Is It, What It Can Do to Your Health. How to Fight Back. New York: E.P. Dutton & Co., Inc., 1974.

Meerloo, A. M. Total War and the Human Mind. International Universities Press, Inc., 1945. 355.343/M495t

Meier, Norman C. Military Psychology. New York: Harpers Brothers, 1943. 355.0019/MS11a

Menninger, William C., Psychiatry in a Troubled World: Yesterday's War and Today's Challenge. New York: The Macmillan Company, 1948. 616.89/MS47p

Moran, Charles McMoran Wilson, Lord. The Anatomy of Courage. Boston: Houghton Mifflin Company, 1967. 155.93/MS29a

Mullins, William S. and Albert J. Glass, eds. Medical Department, United States Army: Neuropsychiatry in World War II. Volume II. Overseas Theaters. Washington, D.C.: Office of the Surgeon General, 1973. 940.54/U56a/Vol. II

Paine, Whiton Stewart.. ed. Job Stress and Burnout. Beverly Hills, California: Sage Publications, 1982. 158.7/J62

Pease, Victor. Anxiety into Energy. New York: Elsevier-Dutton Publishing Co., Inc., 1981.

Pelletier, Kenneth R. Healthy People in Unhealthy Places: Stress and Fitness at Work. New York: Delacorte Press, 1984.

Richardson, F.M. Fighting Spirits: A Study of Psychological Factors in War. London: Leo Cooper, 1978. 355.0275/R522f

Sarason, Irwin B., and Charles D. Spielberger, eds. Stress and Anxiety, Vol. 2. Washington, D.C.: Hemisphere Publishing Corporation, 1975. 618.8522/S915/v.2.

\_\_\_\_\_. Stress and Anxiety, Vol. 4. Washington, D.C.: Hemisphere Publishing Corporation, 1977. 618.8522/S915/v.4.

Schwartz, Jackie. Letting Go of Stress. New York: Pinnacle Books, 1982.

Seliger, Susan. Stop Killing Yourself - Make Stress Work for You. New York: G.P. Putnam's Sons, 1984.

Selye, Hans. The Stress of Life. New York: McGraw-Hill Book Company, 1956. 616.07/S469s

\_\_\_\_\_. Stress Without Distress. New York: CIGNET Books,



1973.

Shaw, Malcolm E., Emmett Wallace, and Frances N. LaBella. Making It Assertively. Edglewood Cliffs, New Jersey: Prentice-Hall, Inc., 1980.

Shealy, C. Norman. 90 Days to Self-health. New York: The Dial Press, 1977.

Solomon, Harry C. and Paul I. Yakovlev, eds. Manual of Military Neuropsychiatry. Philadelphia: W. B. Saunders Company, 1945. 616.8/8689m

Stouffer, Samuel A. et al. Studies in Social Psychology in World War II. The American Soldier: Adjustment During Army Life. Vol I. Princeton, New Jersey: Princeton University Press, 1949. 355.1/8933

\_\_\_\_\_. Studies in Social Psychology in World War II. The American Soldier: Combat and Its Aftermath. Vol II. Princeton, New Jersey: Princeton University Press, 1949. 355.1/89332

Veninga, Robert L. and James P. Spradley. The Work/Stress Connection: How to Cope with Job Burnout. Boston: Little, Brown & Company, 1981.

von Greyerz, Malo. Psychology of Survival: Human Reaction to the Catastrophes of War. Translated by Claude Stephenson. New York: Elsevier Publishing Company, 1962. 150.194/6845p

Watson, Peter. War on the Mind: The Military Uses and Abuses of Psychology. New York: Basic Books, Inc., 1978. 355.0019/W341w

Winter, Richard E., ed. Coping with Executive Stress. New York: McGraw-Hill Book Company, 1983.

#### Government Documents

Bailey, Pearce and Frankwood E. Williams, and Paul O. Komora, eds. The Medical Department of the United States Army in the World War: Neuropsychiatry, Volume X. Washington: U.S. Government Printing Office, 1929. 355.345/U582m/v.10

Coates, John Boyd Jr. and Ebbe Curtis Hoff, eds. Medical Department, United States Army: Preventive Medicine in World War II. Volume III. Personal Health Measures and Immunization. Washington, D.C.: Office of the Surgeon General, 1955.

Davis, S. W. and J. G. Taylor. Technical Memorandum ORO-T-295: Stress in Infantry Combat. Chevy Chase, MD.: Operations Research Office, April 1955. N-16454.292

Egbert, Robert L. et al. Human Resources Research Office Technical Report 44: Fighter I - An Analysis of Combat Fighters and Non-Fighters. Washington, D.C.: Human Resources Research Office, George Washington University, December 1957. N-18107.52

Furukawa, Paul T. et al. "If the Balloon Goes Up Will I Be Ready?, Combat Stress Training: A Multidisciplinary Panel." presented at the 1982 Army Social Work Practices Course, Fort Sam Houston, TX: Academy of Health Sciences, 1982.

Hanson, Frederick R., sd. "Combat Psychiatry: Experiences in the North African and Mediterranean Theaters of Operation, American Ground Forces, World War II." The Bulletin of the U.S. Army Medical Department. IX Supplemental Number (November, 1949), 1-216. M9405/621/J.60

Headquarters, Department of the Army. Army Regulation 40-216. Neuropsychiatry and Mental Health. Washington D.C., 10 August 1984.

\_\_\_\_\_. Field Circular 16-51. Battle Fatigue Ministry. Fort Monmouth, New Jersey, September 1986.

\_\_\_\_\_. Field Manual 8-230. Medical Specialist. Washington D.C.: U.S. Government Printing Office, 24 August 1984.

\_\_\_\_\_. Field Manual 22-9. Soldier Performance in Continuous Operations. Washington D.C.: U.S. Government Printing Office, 8 December 1983.

\_\_\_\_\_. Field Manual 22-100. Military Leadership. Washington D.C.: U.S. Government Printing Office, 31 October 1983.

\_\_\_\_\_. Field Manual 26-2. Management of Stress in Army Operations. Washington D.C.: U.S. Government Printing Office, 8 December 1983.

\_\_\_\_\_. Field Manual 26-2. Management of Stress in Army Operations. Washington D.C.: U.S. Government Printing Office, 29 August 1986.

\_\_\_\_\_. Field Manual 100-5. Operations. Washington D.C.: U.S. Government Printing Office, 5 May 1986.

\_\_\_\_\_. Field Manual 101-5-1. Operational Terms and Symbols. Washington D.C.: U.S. Government Printing Office,, 21 October 1985.

\_\_\_\_\_. Graphical Training Aid 21-3-4. Battle Fatigue: Normal. Common Signs: What to do for Self & Buddy. Washington D.C.: U.S. Government Printing Office, March 1986.

\_\_\_\_\_. Graphical Training Aid 21-3-5. Battle Fatigue: 'More

Serious' Signs: Leader Actions. Washington D.C.: U.S. Government Printing Office, March 1986.

\_\_\_\_\_. Graphical Training Aid 21-3-5. Battle Fatigue: Company Leader Actions & Prevention. Washington D.C.: U.S. Government Printing Office, March 1986.

Headquarters, Northwest African Air Forces, Office of the Air Surgeon.  
Subject: Neuropsychiatric Care of Air Corps Personnel in the North African Field of Operations.. 28 February 1943.

Mangelsdorff, A.D. and Paul Furukawa. Proceedings: Second User's Workshop on Combat Stress: Cohesion. held at Fort Sam Houston, TX: Academy of Health Sciences, 1982. AD-A149 034

\_\_\_\_\_. Proceedings: User's Workshop on Combat Stress. held at Fort Sam Houston, TX 2-4 September 1981: Academy of Health Sciences, December 1983. AD-A152 464

Mangelsdorff, A.D. and Frank H. Rath. Proceedings. 1982 AMEDD Psychology Symposium: Multiple Functions and Challenges. 15-19 November 1982. held at Dwight David Eisenhower Army Medical Center, Augusta, GA. Fort Sam Houston, TX: Academy of Health Sciences, December 1983. AD-A145 855

Mangelsdorff, A.D., James M. King, and Donald E. O'Brien. Proceedings: Third User's Workshop on Combat Stress. Cohesion. held at Fort Sam Houston, TX: Academy of Health Sciences, December 1983. AD-A149 035

\_\_\_\_\_. Proceedings: User's Workshop on Combat Stress (5th). held at Fort Sam Houston, TX: Army Health Care Studies and Clinical Investigation Activity, July 1986. AD-A170 784

Memorandum for the Air Surgeon. Subject: Observations made in the Northwest African Theater., 13 April 1943. N-6017.

Michel, Rex R. and Robert E. Solick. Working Paper FLy FU 83-4. Review of Literature on the Effects of Selected Human Performance Variables on Combat Performance. Alexandria, Virginia: U.S. Army Research Institute for the Behavioral and Social Sciences, October 1983.

Operations Research Office. Human Factors in Military Operations: Some Applications of the Social Sciences to Operations Research (ORO-T-259). Chevy Chase, Maryland: John Hopkins University, September 1954. N-16454.365

\_\_\_\_\_. Symposium on the Role of Stress in Military Operations. 1 and 2 May 1953. (ORO-T-256). Chevy Chase, Maryland: John Hopkins University, 2 December 1953. N-16454.240

\_\_\_\_\_. Technical Memorandum ORO-T-41(FEC): A Study of Combat

Stress, Korea 1952 (Preliminary Report). Chevy Chase, Maryland:  
John Hopkins University, March 1953. R-16454.195

Schneider, Robert J. "Stress Breakdown in the Wehrmacht: Psychiatry  
and Society." Walter Reed Army Institute of Research, Washington,  
D.C., 3 December 1986.

U.S. Army Command and General Staff College. Field Circular 22-102.  
Soldier Team Development. Fort Leavenworth, Kansas, 1 October  
1985.

\_\_\_\_\_. Field Circular 53-10. Soldier Dimensions on the Nuclear  
Battlefield. Fort Leavenworth, Kansas, 1 January 1986.

\_\_\_\_\_. Stress Management Seminar Notebook. Fort  
Leavenworth, Kansas, March 1984.

\_\_\_\_\_. Training Support Package No. SI-9002.07-0114. Identify  
and Apply Special Leadership Considerations to Minimize the Effects  
of Battlefield Stress on Unit Operations. Fort Leavenworth,  
Kansas, 15 June 1986.

U.S. Department of the Army. Replacement System World-Wide. World War  
III: Report of Replacement Board. Department of the Army, 1947.  
Book 5 (Annexes to Report)., 1947.

#### Periodicals and Articles

Albright, John D. "Stress." United States Army Aviation Digest. 15  
(January 1969), 26-27.

Artiss, Kenneth L. "Human Behavior Under Stress - From Combat to  
Social Psychiatry." Military Medicine. 128 (October, 1963),  
1011-1015.

Belcher, Michael F. "Fear in Combat." Marine Corps Gazette. 64  
(September, 1980), 49-53.

Belenky, Gregory Lucas, Shabtai Noy, and Zahava Solomon. "Battle  
Stress: The Israeli Experience." Military Review. LXV (July,  
1985), 28-37.

Benge, D.A., J.M. Robertson, and G.J. Stone. "Commanding Above the  
Stress of Battle." Journal of the Australian Profession of Arms.  
52 (May/June 1985), 31-42.

Berkun, Mitchell M., Hilton M. Bialek, Richard P. Kern, and Kan Yagi.  
"Experimental Studies of Psychological Stress in Man."  
Psychological Monographs: General and Applied. 76:15 (Whole No.  
534, 1962). 150.72 B513e

- Bower, Bruce. "Shaping Up Your Mind." Science News. 130 (August 2, 1986), 75.
- Bowman, Donald C. "Combat Stress." Infantry. 63 (September-October, 1973), 40-42.
- Branley, Bill. "Mind over Battle." Soldiers. 36 (September, 1981), 22-24.
- Chernol, Brian H. "Battle Fatigue." Infantry. 74 (January-February, 1984), 13-15.
- \_\_\_\_\_. "Psychiatric Casualties in Combat." Military Review. LXII (July, 1983), 26-32.
- \_\_\_\_\_. "The Quiet Enemy: Combat Stress." Army. 33 (September, 1983), 18-21.
- Clegh, Zenia. "How to Keep Cool in a Crisis." Reader's Digest. 127 (October, 1985), 135-139.
- Dunn, Walter S., Jr. "People Policies in Combat." Parameters. XIV (Spring, 1984), 49-57.
- Ewell, Julian J. "High Morale in Combat." Military Review. LXII (June, 1982), 19-33.
- "Fear and Pain." (Seminar Report, M.N. Naylor, Chairman.) Journal of the Royal United Services Institute for Defense Studies. 125 (September, 1980), 69-74.
- Gabriel, Richard A. "Stress in Battle: Coping on the Spot." Army. 32 (December 1982), 36-42.
- Gabriel, Richard A., and Reuvan Gal. "The IDF Officer: Linchpin in Unit Cohesion." Army. 34 (January, 1984), 42-49.
- Geier, Richard P. "Sleep Loss: A Debt That Must Be Paid." Armor. LXXXVIII (January-February, 1979), 37-38.
- Griffin, Darrell R., George Everly, and Calvin Fuhrmann. "Designing an Effective Stress-Management Training Program." OE Communic. 6 (4-1982), 35-39.
- Griffin, J.H. "World War III: How Can the Soldier Survive and Succeed?" Defense Force Journal. 51 (March/April 1985), 33-39.
- Hannon, John. "Battlefield Medical Facilities: Preoccupations and Provisions." International Defense Review. 19:5 (1986), 621-624.
- Herbert, W. "Elaborating the Stress Response." Science News. 124 (August 6, 1983), 84.

Hollis, William S. "Espirit de Corps and Morale - The Four Facets of the Soldier." OE Communique. 7 (1-1983), 14-17.

Ingraham, Larry H., and Frederick J. Manning. "Psychiatric Battle Casualties: The Missing Column in a War Without Replacements." Military Review. LX (August, 1980), 18-29.

Ludwig, Alfred O., and Stephen W. Ranson. "A Statistical Follow-up of Effectiveness of Treatment of Combat-Induced Psychiatric Casualties: I. Returns to Full Combat Duty," and "II. Evacuations to the Base." The Military Surgeon. 100 (January-February, 1947), 51-62 and 169-173.

Maginnis, Robert L. "Battle Stress: Are We Prepared?" Armor. 93 (November-December 1984), 35-40.

Manning, Frederick J., and Larry H. Ingraham. "Continuous Operations: Who Melts, When, and Why?" Field Artillery Journal. 49 (May-June, 1981), 13-16.

Marlow, David H., and Larry H. Ingraham. "Emphasizing Cohension, Morale Can Help Battle Stress." Army. 33 (July, 1983), 16-17.

Noy, Shabtai. "Division-Based Psychiatry in Intensive War Situations." Journal of the Royal Army Medical Corps. 128 (1982), 105-116.

Peters, Ruanne K. and Herbert Benson. "Time out from Tension." Harvard Business Review. (January-February, 1978), 120-124.

Pine, Devera. "Me? Stressed?" Health. 17 (September, 1985), 61-63+.

Pittman, Garry L. "Stress and the MP". Military Police Journal. 11 (Fall, 1984), 15-19.

Rock, Samuel K., Jr. and Robert J. Schneider. "Battle Stress Reactions and the Israeli Experience in Lebanon: A Brief Summary." Medical Bulletin of the US Army, Europe. 41:1 (January, 1984), 9-11.

Schneider, Robert J., and Richard L. Luscomb. "Battle Stress Reaction and the United States Army." Military Medicine. 49 (February, 1984), 66-69.

Stock, Walter D. "Leading to Confidence." Infantry. 68 (May-June 1978), 20-26.

Thompson, Henry L. "Sleep Loss and Its Effect in Combat." Military Review. LXII (September, 1983), 14-23.

\_\_\_\_\_. "Stress-Train: Training for High Performance." Military Review. 65 (February, 1985), 54-62.

Troxler, Raymond G., and Harry P. Wetzler. "Executive Stress: The Symptoms, the Cause, and the Cure." Air University Review. XXXII (March-April, 1981), 43-52.

Williams, U. P. "They May Not Die - But They Wither Fast." Military Review. XXX (July, 1950), 16-23.

#### Unpublished Material

Coomer, James D. "Causes of Combat Stress in the Artillery Firing Battery Supporting High-Intensity Conflict in the European Theater". Unpublished monograph. Fort Leavenworth, KS.: School of Advanced Military Studies U.S. Army Command and General Staff College, 2 December 1985.

Flora, Dale B. "Battlefield Stress: Causes, Cures and Countermeasures". Unpublished MMAS thesis. Fort Leavenworth, Kansas: Command and General Staff College, 1985.

Headquarters, Department of the Army. Field Manual 26-2. Management of Stress in Army Operations. Unpublished draft. Washington D.C.: U.S. Government Printing Office, 8 December 1983.

Lieving, Jr., Bernard H. Battle Fatigue: A Pastoral Model for Prevention and Treatment. Carlisle Barracks, Pennsylvania: U.S. Army War College, 23 May 1986.

U.S. Army Soldier Support Center and U.S. Army Academy of Health Sciences. Training Support Package. Counteract the Effects of Continuous Operations on Soldier Performance. Unpublished draft. Fort Benjamin Harrison, Indiana, 19 November 1986.

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